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# Only Firestone

## GROUND GRIP TIRES

### Give You a **POWERFUL BACKBONE** in the **TRACTION ZONE**...

Up to 215 EXTRA INCHES of Traction Bar Length Per Tractor Prevents Traction Leaks and Gives You EXTRA TRACTION Where it Counts Most ! !

*says* MR. EXTRA TRACTION

"AND WHAT EVERY FARMER WANTS IS A STURDY BACKBONE IN THIS TRACTION ZONE WHERE THE MAIN PULLING JOB IS ACTUALLY DONE"



**T**HIS is the time of the year when wet, slippery fields require the utmost in traction. It takes something "extra" in a tractor tire to provide this necessary additional traction. And it's the "extras" in Firestone Ground Grip Tires that enable them to out-pull, out-clean and out-wear any other tractor tires made. Consider these facts:

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You get up to 215 extra inches of traction bar length per tractor — a powerful, sturdy backbone in the center of the Ground Grip tread. This avoids costly traction leaks common to broken bar treads. That's why the patented Triple-braced Tread provides greater traction and uses less fuel.

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The spaces between Firestone Triple-braced bars are wide and

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Unbraced traction bars bend, wobble, wipe and in some cases tear off. Even the heaviest going cannot bend Firestone Triple-braced traction bars. That's why they retain their sharp biting edges providing longer wear. And the new weather-proof, wear-resisting Vitamic rubber protects against sun and barnyard acids.

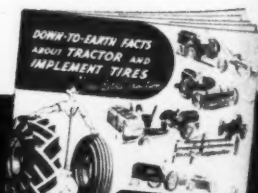
When you buy a new tractor or changeover your present steel-wheel tractor, be sure you get Firestone Ground Grip Tires.



Old Dobbin laughs every time he hears anyone say, "An open center gives a better bite"

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**MORE FARM TRACTORS ARE EQUIPPED WITH FIRESTONE GROUND GRIP TIRES THAN WITH ANY OTHER MAKE**

Listen to the Voice of Firestone with Richard Crooks, Margaret Speaks and Alfred Wallenstein, Monday evenings, N. B. C. Red Network

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# COMBAT



## *A remarkable, full-color sound motion picture* THAT TELLS A STORY OF MAN'S FIGHT AGAINST INSECTS AND PLANT DISEASES



In the near future, General Chemical Company's new full-color sound picture, COMBAT, will be presented through your Orchard Brand dealer. It is a story of *why*, as well as *how*, man must wage a relentless fight with chemicals and other means to keep the products of his soil and labor.

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COMBAT has taken two years to produce. In the film are "shots" which have never before

been recorded and which literally took weeks to make . . . highly magnified photographic studies, in full natural color, of insects and fungous diseases in the various stages of their development. To make this picture, the camera travelled 15,000 miles recording scenes in most of America's major agricultural areas.

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NARRATED BY LOWELL THOMAS

# I was mighty lucky when I got Goodyears on my tractor

THAT **OPEN CENTER** SELF-CLEANING TREAD GIVES YOU EVERYTHING A MAN COULD WANT IN A TRACTOR TIRE



**A**LMOST everybody wants rubber tires on tractors these days. But the smart man wants something more.

He wants the kind of tires that give him the *most work and the most comfort* from his tractor under all working conditions.

And don't let anybody fool you, the kind of tire — the tread it has — makes a big difference.

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*On the job*, you want a tread that pulls smoothly against the earth without cutting it up in chunks. And that means

a self-cleaning tread with separate uniform lugs—each one able to penetrate sharp and clean—and come out the same way with minimum disturbance of the soil.

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And finally, you want a tread that will *back up*—deliver real pulling power going backward or

forward. And believe it or not, farmers have found that some kinds of tires fall down on this simple-sounding job.

So the man who has Goodyear Sure-Grips on his tractor is lucky—whether he picked them out for a change-over, or asked for them when he bought his tractor new.

If you have Goodyears on your tractor now—you can check the four points mentioned here and find out for yourself how right they are.

THE GREATEST NAME IN RUBBER  
**GOODYEAR**

OPEN CENTER TREAD

**Sure-Grip**  
THE SELF-CLEANING TRACTOR TIRE



# AMERICAN FRUIT GROWER

The  
NATIONAL FRUIT MAGAZINE

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## AMERICAN FRUIT GROWER

Published Monthly by  
AMERICAN FRUIT GROWER PUBLISHING CO.  
1370 Ontario St., Cleveland, O.

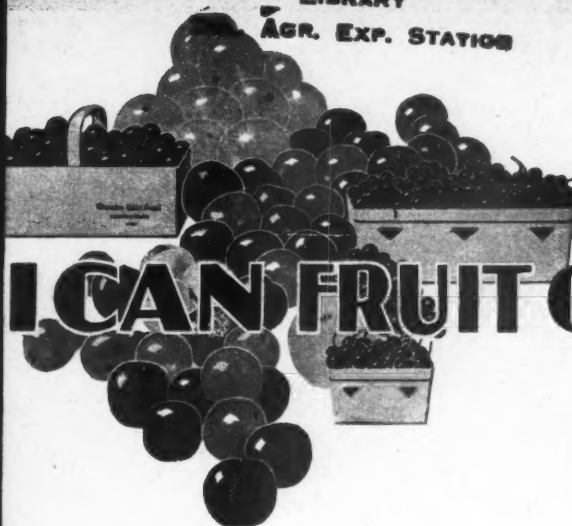
### SUBSCRIPTION RATES

Domestic Except Cleveland, 3 years \$1.00. 1 yr. 50c  
Cleveland, Canada and foreign \$1.00 per year.  
Single Copy, 10 Cents.

Entered as second-class matter at Post Office at  
Cleveland, Ohio, under the Act of March 3, 1879  
Additional entry at Mount Morris, Illinois.

PRINTED  
IN U.S.A.

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## Looking Ahead With Fruit

**W**ORLD conditions and domestic trends have moved so rapidly that few people realize the vastly changed outlook for agriculture and fruit growing that has developed in the year just passed. In its effort to "Make America stronger by making Americans stronger" through improved nutrition, the Government has indicated its goal of doubling the consumption of many kinds of fresh fruits and vegetables in order to achieve the proper amount of consumption of these protective foods. This educational campaign, through the auspices of the United States Government, is a tremendous force toward increasing demand which very few producers fully have appreciated.

A large percentage of the European orchards have been neglected and many of them have been destroyed in recent years. America will be the source of great quantities of food, particularly, of those protective foods such as fruits, when the time comes to rebuild shattered Europe.

Figures from the 1940 census which now are being received have shown a startling decrease in the number of bearing fruit trees as compared to the 1930 census. The total number of apple trees has been reduced by almost half in 10 years and the situation in the young non-bearing orchards is even more critical. Indications show that there will be less than 40 per cent as many non-bearing trees as in 1930.

Even though better production per tree has been achieved, the situation causes grave concern when one realizes the extra demands made for fruit which, undoubtedly, will result from the nutrition campaign, requirements from abroad and other factors.

The apple industry has made rapid strides in the way of co-operation and a united front in solving its problems through the National, regional and state apple institutes, all of which are co-operating splendidly with the Government and private agencies. By helping to solve these problems, and by improving the efficiency of production and distribution, and by increasing the demand for apples, the situation for the grower is definitely more favorable for the future.

## NATIVE NUT TREES

The number of crop plants that had their origin in the Americas is impressive and some of them are of major importance. Corn, beans, sweet and Irish potatoes, peanuts, tobacco, and cotton are conspicuous examples.

Frequently we are chided because American horticulture pays so little attention to native nut plants as a source of revenue. The nut trees do receive attention at a few experiment stations but only at a precious few.

Recently, we had an opportunity to see an excellent collection of black walnuts, butternuts, hazelnuts, one thin-shelled pecan of fair size and good quality, and a few chestnuts at the Indiana State Fair. They had been collected by the students' horticultural society. The size, quality and cracking characteristics of the black walnuts were little short of marvelous and this collection points a finger of shame at the American farmer and fruit grower for overlooking these possibilities.

Here is a potential lumber and crop plant which has had many sponsors but few practical adherents.

**HE'S GOT THE RIGHT ANSWER  
TO HIS POWER PROBLEM....**



***He Owns an***  
**INTERNATIONAL DIESEL!**

FRUIT GROWERS have to tackle some of agriculture's toughest jobs. Hauling fruit and maintaining the orchard the year 'round, often under adverse conditions, is a real test of human skill and mechanical stamina. It is this kind of work that is being handled so efficiently by rugged, handsome International Diesel TracTractors in thousands of orchards all over the country.

Men who know what it takes to do their kind of job well are choosing these great Diesel Crawlers. They know from experience that International Harvester engineering will not let them down... that

in this new TracTractor line, as in every machine bearing the IHC trade-mark, *quality comes first!* It is this famous quality that means long years of trouble-free performance and greater satisfaction to the user every working day of his tractor's life. The nearby International Harvester dealer will be glad to discuss this with you in detail, next time you come to town. Be sure to ask him about the full line of McCormick-Deering Wheel-type Orchard Tractors and McCormick-Deering Tillage Tools.

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—American Fruit Grower Photograph

## THE JOB OF THE FRUIT GROWER IN NATIONAL DEFENSE

By HON. LLOYD C. STARK

**W**ITH America entering a new era of Nutrition—an era where balanced diets with an abundance of fresh fruits and vegetables are being stressed in the Nation's plans for Defense—it will be the job of the fruit growers of America to supply fresh fruit in greater quantities—enough to give the American people, both young and old, "two apples where only one was eaten before"—with other fruits in proportion.

As recently pointed out by Secretary of Agriculture, Claude R. Wickard, 100 per cent more apples and other fruits and vegetables will be needed to meet the requirements of the new Nutrition program. Every fruit grower, large and small, is urged to improve his efficiency in growing more and better fruit to supply the demand which rapidly is being built up by the United States Government's campaign to build a stronger America through proper diets.

Recent studies have brought out the fact that the American people, as a whole, have strayed from the protective foods which made up the well-balanced diets of our rugged pioneers. Much of the health-giving elements have been refined out of the flour, etc. The family orchard and, to a somewhat less extent, the family vegetable garden almost have disappeared in some sections. This greatly decreased

This article by ex-Governor Lloyd C. Stark of Missouri is very timely and comes from a man who has had an opportunity to view the fruit situation from an unusually large number of angles. He has had wide experience, having served in the Navy, in the Army during the First World War, as Chief Executive of the State of Missouri, and as a producer of fruit and other agricultural products for many years.

number of home orchards and vegetable gardens has resulted in families lacking a well-balanced diet which is essential to glowing health and strength. Possibly their food was enough to satisfy their hunger—but it was not the right kind of food.

When there is a plentiful supply of home grown fruits and vegetables, the family naturally eats a much larger amount in the daily diet. What is even more important, members of the family form the habit of eating fruits and vegetables which are the rich source of vitamins, minerals and other elements of value to robust health. If the

Above—"One of the most far-reaching movements during the present century is the Government's plan to see that an apple is included in the lunch of all school children."

AMERICAN FRUIT GROWER

American people are to go back to these fundamentals of a wider use of these valuable natural foods, a strong desire and a definite habit of regularly eating them must be created.

Government investigations have shown that, unless the farmers grow at least a portion of the fruit required for their families, they will not have an adequate amount of fresh fruit necessary for good health. Furthermore, the children who are growing up without plenty of fresh fruit get out of the habit of eating fruit. This is one of the basic problems that has affected the commercial growers of apples and other fruits, and it very definitely is desirable to re-establish the fruit-eating habit with the younger generation.

One of the most far-reaching movements during the present Century is the Government's plan to see that an apple is included in the lunch of every child in American schools. The children will learn to eat apples regularly and one of the habits which kept our fore-fathers healthy and vigorous will be practiced again throughout the land. This distribution of fruit through the schools, under the auspices of the Government, has proven so popular wherever it has been carried out that the program is being enlarged as rapidly as possible. It is

(Continued on page 19)

## STATE BY STATE

**ARKANSAS**—There is no compulsory grading law in Arkansas. However, at the last two sessions of General Assembly of Arkansas, growers introduced a standardization bill but it did not pass.

**CONNECTICUT**—Among other requirements, all closed packages must be marked plainly with the grade of apples and minimum size. Connecticut grades are: Connecticut Extra Fancy, Connecticut Fancy, Connecticut No. 1, Connecticut Commercial, Connecticut Utility, and Connecticut Cooker Grade. It is permissible also to use U. S. Grades.

**ILLINOIS**—Every closed container of apples must bear, among other requirements, the grade and minimum size of the apples. Illinois grades are: Ill.-U. S. Fancy, Ill.-U. S. No. 1, Combination Grade, Ill.-U. S. Utility, Unclassified, and Ill. No. 1 Pie Apples. To be graded pie apples, the fruit must be free from any defect which cannot be removed during the usual commercial preparation for use without causing a loss of over five per cent by weight of the apple in excess of that which would occur if the apple were perfect.

**IDAHO**—Idaho has standards for grading which are used almost exclusively. Idaho grades are: Extra Fancy or First Grade, Fancy or Second Grade, "C" Grade or Third Grade, Orchard Run Grade, Hail Grade, Unclassified, and Combination Grades. The use of U. S. Standards for apples is permissible and is optional with the grower or shipper. Certificates will be written using U. S. grades for apples only upon request.

**INDIANA**—All apples offered for sale in Indiana must be labeled with a sign bearing the grade, minimum size and variety. U. S. grades may be used. Indiana grades are the same as U. S. grades except that the Cull Grade is used instead of Unclassified and a Domestic Grade for drop apples has been established. Apples which do not conform to these grades must be labeled "CULLS" in letters 2 1/2 inches high. The terms "Unclassified," "Ungraded," and "Grower's Grade," are not allowed under Indiana law.

**IOWA**—There are no Iowa laws for grading and no Iowa grades for apples. Iowa recommends that U. S. grades be used.

**KANSAS**—U. S. grades are used by Kansas growers. There is an Apple Standards Law but no provision has been made for its enforcement and it is considered as unoperative. According to the Apple Standards Law when apples are being prepared for marketing, they must be graded and all boxes, baskets or barrels in which apples are packed must be marked with among other requirements the grade and the minimum size. Kansas has established a Domestic Grade for windfall and drop apples of one variety free from decay, clean and entirely suitable for immediate consumption. Kansas Unclassified Grade differs slightly from U. S. Unclassified in that it consists of apples which are not graded in conformity with any of the U. S. Grades but which are reasonably clean and free from serious diseases and decay.

# Learn to Grade and Market STUDY U. S. STANDARDS AND YOUR

**U. S. GRADES** of apples were born as war babies in 1918, grew up during the depression, and, having reached maturity in 1937 when the most recent standards were issued by the Department of Agriculture, provide an effective ruler by which growers can measure the quality of their crop. Buried away in United States Department of Agriculture Service and Regulatory Announcement No. 154, they represent one of the most important clues to the problem of how to effectively market apples. For improved marketing, growers must grade their fruit and educate the consumer to the better apple grades. Federal grades for apples are not mandatory and the Department of Agriculture has not made their use compulsory. However, more and more states, whose grades are based to a great measure on U. S. standards, are making grading necessary by law so that it will be possible to prohibit the sale of inferior grades of fruit which drag down the market and lower prices.

There are 11 U. S. Grades for apples: U. S. Fancy; U. S. No. 1; U. S. Commercial; U. S. No. 1 Early; U. S. Utility; U. S. Utility Early; three Combination grades; U. S. Hail grade; and Unclassified.

To be labeled U. S. Fancy, apples may be of any size, but must be of only one variety. They must be mature, but not over-ripe, carefully hand-picked, clean, and fairly well formed. Requirements for U. S. Fancy also include freedom from decay, internal browning, internal breakdown, scald, freezing injury, broken skins and bruises (except those which occur during proper handling and packing), and visible water core. The apples also must be free from damage. Damage is defined as any injury or defect which materially detracts from the appearance or keeping quality of the apples and includes russetting, sunburn, spray burn, limb rubs, hail, drought spot, scars, disease, and in-

This year probably has seen more state legislation affecting the grading of apples than ever before in the history of fruit growing. Confronted with new regulations, growers must learn how to grade and mark their apples properly. This means a thorough study of existing state and U. S. grading regulations.

—Editors

sects. It also includes injury caused by mechanical or other means. Tolerances have been set for most of these damages. For instance, more than two healed insect stings or any healed insect sting which is over one-eighth inch in diameter, exclusive of any encircling discolored rings, is considered insect damage. Scab spots are considered damage when they are not corked over or when they are corked over and affect a total area of more than one-quarter inch in diameter.

The requirements for U. S. No. 1 are the same as for U. S. Fancy except that less color is required for solid red and striped varieties. For yellow and green varieties, like Golden Delicious or Rhode Island Greening, requirements for both grades are the same. With striped or partially red varieties such as Jonathan, McIntosh and Delicious, 33 per cent color is required for U. S. Fancy and 15 per cent color required for U. S. No. 1. For solid red color varieties, like Winesap, Arkansas Black and Gano, 50 per cent red color is required for Fancy and 25 per cent for No. 1.

U. S. Commercial grade is similar to U. S. No. 1 except for color. This grade is provided for apples which are mature but which do not have sufficient color to meet the specifications of U. S. No. 1.

U. S. No. 1 Early consists of apples which meet the requirements of U. S. No. 1 except as to color and maturity. Apples of this grade may have no red color and may not be mature. It is provided for early ap-



# and Mark Apples Properly

## AND YOUR STATE REGULATIONS

### DIFFERENCES IN U. S. GRADES OF APPLES

*Group I	*Group II	Group III
<b>U. S. FANCY</b> <b>U. S. No. 1</b> <b>U. S. COMMERCIAL</b> Same grade requirements except for color.  <b>U. S. No. 1 EARLY</b> Same as U. S. Commercial except for maturity.	<b>U. S. UTILITY</b>  <b>U. S. UTILITY EARLY</b> Same grade requirements except for maturity.	<b>UNCLASSIFIED</b> These apples are ungraded.
		*Group I and II differ mainly in shape of apples, cleanness, and extent of injuries and damages.

ples such as Oldenburg, Gravenstein, Wealthy, Williams, and other varieties which ripen at the same period and which often are used for cooking rather than for eating out of hand.

U. S. Utility grade markedly differs from U. S. Fancy. The main differences between U. S. Fancy and U. S. Utility is in the shape of the apples, cleanness of the apples, and allowances for broken skins and bruises and visible water core. The Utility grade consists of apples of one variety which are mature but not over-ripe, carefully hand-picked, not seriously deformed, free from decay, internal browning, internal breakdown, scald, and freezing injury.

Utility grade apples also must be free from serious damage which is defined as any injury or defect which seriously detracts from the appearance or keeping quality of apples. It includes damage caused by dirt or other foreign matter, broken skins, bruises, russetting, sunburn, spray burn, limb rubs, hail, drought spot, scars, visible water core, disease, insects, or injury caused by mechanical or other means. Tolerances also have been set for most of these damages. For instance, more than five healed insect stings are considered serious damage. Also, scab spots which are not corked over or corked-over scab spots which affect a total

area of more than three-quarters inch in diameter are serious damage. These tolerances are generally larger than the tolerances allowed for damages under U. S. Fancy.

U. S. Utility Early consists of apples which meet the requirements of U. S. Utility except as to maturity. Apples of this grade need not be mature.

Combination of these grades may be used as follows: Combination U. S. Fancy and U. S. No. 1; Combination U. S. No. 1 and U. S. Commercial; Combination U. S. No. 1 and U. S. Utility. When combinations are packed at least 50 per cent of the apples in any container must meet the requirements of the higher grade in combination.

U. S. Hail grade consists of apples which meet the requirements of U. S. No. 1 except that hail marks where the skin has not been broken and well-healed hail marks where the skin has been broken shall be permitted, provided the apples are fairly well formed.

Unclassified consists of apples which are not graded in conformity with any of these grades. In many cases these are cull apples.

Any deterioration such as decay or scald which develops on apples after they have been in storage or

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## STATE BY STATE

**KENTUCKY**—Apples grown in Kentucky and contained in a closed package must be graded and the grade and the minimum size plus name of variety etc. marked on the outside of the package. Kentucky has its own grades: Kentucky Standard Fancy, Kentucky standard "A" Grade, Kentucky standard "B" Grade, and Unclassified.

**MAINE**—Among other requirements, Maine growers must mark closed packages with the grade and minimum size. Either Maine or U. S. grades may be used. Maine grades are: Maine Standard Fancy; Maine Standard "A"; Maine Commercial; Maine Standard "B"; and Orchard Run or Unclassified.

**MARYLAND**—Growers must mark Maryland-grown apples in a closed container among other requirements with the grade and minimum size. U. S. grades may be used instead of Maryland grades. Maryland grades are: Maryland Standard Fancy, Maryland Standard "A" Grade, Maryland Standard "B" Grade, Cull Grade, and Orchard Run. Orchard Run Grade consists of all apples grown in the orchard irrespective of grade or quality. It is unlawful for any person to sort from a lot of apples any of the larger sizes or better grades and then sell the remaining fruit as Orchard Run.

**MASSACHUSETTS**—The grade does not have to be marked on either closed or unclosed containers of Massachusetts apples. However, minimum size and other requirements must be marked on each closed container. Massachusetts has its own grades for apples. They are: Massachusetts Extra Fancy, Massachusetts Fancy, Massachusetts Combination "A", Massachusetts "B", and Massachusetts Unclassified. Massachusetts also has another set of grades which are identical with U. S. grades.

**MICHIGAN**—Growers must grade all apples and mark on containers among other requirements the grade and minimum size. U. S. grades are used. Drop apples must be marked "Michigan Drops." Growers also must pay an advertising fee of one penny per bushel in order to promote the sale of Michigan apples.

**MINNESOTA**—Among other requirements all apples offered for sale must be marked with the grade and minimum size. Apples which do not meet requirements of any established Minnesota grade must bear the word "CULLS" in letters at least two inches high. U. S. grades may be used. Designations such as "Unclassified," "Ungraded," "Grower's Grade," and "Orchard Run," are not permitted under Minnesota law. Minnesota grades are: Minnesota Extra Fancy, Minnesota No. 1, Minnesota No. 2, Minnesota Hail Grade, Minnesota Drop or Windfall Grade, and Minnesota Cull Grade.

**MISSOURI**—Grading is compulsory by law. Among other requirements, all apples offered for sale must be labeled with a sign bearing minimum size and the grade. All apples which fail to meet the requirements of any of the established grades must be conspicuously labeled with a sign bearing the designation "CULLS" in well-proportioned letters at least

(Continued on page 15)

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OCTOBER, 1941



Stage of bud development on a York Imperial apple spur when it was sprayed with a blossom-removal spray in order to reduce fruit setting during the "on" year.

## MODIFYING THE BIENNIAL BEARING HABIT IN APPLES BY SPRAYING TO PREVENT FRUIT SET

By Dr. J. R. MAGNESS and DR. L. P. BATJER  
United States Horticultural Station, Beltsville, Maryland

**E**XTENSIVE investigational work has shown that the biennial bearing habit in apples results from an excess of fruit setting on the trees during the "on" year. When the quantity of fruit on the tree in relation to the amount of foliage which the tree carries is excessive, flower-bud formation for the following year does not occur. Thus, in the season following the "on" year there is an absence of bloom and crop on the trees. Under these conditions excessive fruit-bud formation occurs with most of the growing points becoming flower buds. Once the biennial bearing habit is established, we have alternate years of extremely heavy bloom and heavy crop followed by an absence of bloom and absence of crop. Fruit thinning experiments have shown that, if the fruit set is reduced in sufficient amount and sufficiently early in the "on" year, fruit-bud formation will occur and repeated crops can be secured. Because of the very short time during which this thinning can be done, however, and the large number of fruits which must be removed from biennial trees, correction of the biennial bearing habit by hand thinning is a questionable economic practice under many growing conditions.

Experiments conducted in 1939 and earlier indicated the possibility of killing part of the bloom of apple trees by the use of caustic sprays such as tar oil distillate and di-nitro-ortho-cyclo-hexyl-phenol. All of the trees sprayed in 1939, in which the set of fruit was reduced to not more than one fruit per 10 blossom clusters in heavily blooming trees, formed a good crop of fruit buds and set good crops of fruit in 1940. Consequently, experiments were continued in 1940 to study the effect of different concentrations of these materials on set of fruit. Since the earlier work had indicated that the delayed cluster bud or early pink stage was most satisfactory for preventing fruit set, all the trees used in 1940 were sprayed while in this stage.

A block of 13 year old York Imperial trees from 25 to 30 feet high and almost completely biennial were available for use at the University Experiment Farm, Kearneysville, West Virginia. These trees were sprayed at the early pink stage, using the spray materials, TOD (Tar oil distillate), or DNO (a prepared mixture of dinitro-ortho-cyclo-hexyl-phenol in oil.) Check trees and treatments were used randomly throughout the

block. Pollination conditions were good for all trees. As thorough coverage as possible of all the materials used was applied; one man spraying the trees from the top of a tank mounted on a truck, another spraying from the ground. On such tall trees it is necessary to direct the spray upward to reach the tops and, in general, hitting blossoms and subsequent killing are less complete in the tops of such tall trees than on the lower branches.

The yield of these trees for 1938 and 1939 indicated the degree of the biennial habit since no treatments were applied during either of these two years. Data was secured by counting 2000 or more blossom clusters on four large limbs in each tree, these limbs being distributed from the middle of the tree upward. Fruit set on these limbs was counted when the June drop was largely over. Additional data was obtained by collecting 100 spurs from all parts of each tree, practically all of the spurs being those that had blossomed in 1940 but had not set fruit. These were cut longitudinally and examined under a binocular microscope for flower parts. At the time these samples were examined, December 2-4, 1940, flower parts in the buds could be distinguished clearly. While such a small sample was not expected to be an accurate indication of total bloom in 1941, it was believed that the relative amount of bloom indicated for the various trees would be fairly close to what would develop.

Almost all growing points on these trees had blossomed in the spring of 1940. Check trees varied from 29 to 44 per cent and, as would be expected, apparently formed almost no fruit buds for 1941. Following those spray treatments which reduce the set to not over 10 fruits per 100 blossom spurs, there was apparently ample fruit-bud formation for a full crop in 1941.

In the experiments tar oil distillate at .8 per cent concentration appeared to be somewhat more effective in reducing fruit set than the same material at 1.6 per cent. We have no explanation of the failure of the 1.6 per cent tar oil distillate to more effectively reduce the set on the trees in the experiment sprayed only once with this material. Other trees sprayed from the same tank mixture had their fruit set effectively reduced.

A treatment with tar oil distillate 1.6 per cent as a repeat spray represented two applications of this material made five days apart, the first being at the early pink and the second at the late pink stages. This treatment was applied to determine

(Continued on page 20)



# CITRUS SURVEY

Substantial increase in citrus production and marketing programs which have resulted in record-breaking sales leads AMERICAN FRUIT GROWER to devote this year's fruit survey to citrus varieties. We are indebted to A. F. Camp, Horticulturist-in-Charge at the Citrus Experiment Station, Lake Alfred, Florida, for the summary of leading commercial citrus varieties in his State; to Howard A. Miller, Manager, Agricultural Department, Los Angeles Chamber of Commerce and to the Citrus Experiment Station, Riverside, California, for reports upon California citrus varieties; to R. B. McLeish, Manager of the Rio Grande Valley Citrus Exchange and to the Texas Agricultural Experiment Station, College Station, Texas, for reports on citrus varieties for the lower Rio Grande Valley; and to W. S. Martin, Associate Horticulturist, Agricultural Experiment Station, University of Arizona, for the summary of citrus plantings in that State.

—Editors

**O**RANGE varieties are divided roughly into three classifications; the early, midseason and late varieties. Because of climatic conditions, California is able to produce oranges commercially throughout the year by planting only two varieties whereas for the same reason it is necessary to plant three different varieties in Florida in order to supply the year-around demand.

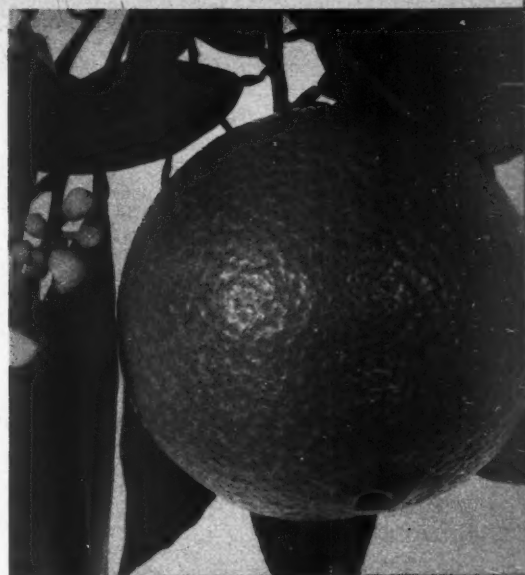
The Washington Navel orange and the Valencia orange are the two varieties upon which the citrus industry of California is based. The first of these two originated as a bud variation of a tree of the Selecta orange variety in Brazil and is a fruit of excellent quality with rich flavor. It has the especial advantage of being seedless. Ripening and picking period usually is between November 1 and January 1. The quality of the Washington Navel orange is affected markedly by differences in climate and, though grown in Arizona,

it is not grown in Florida.

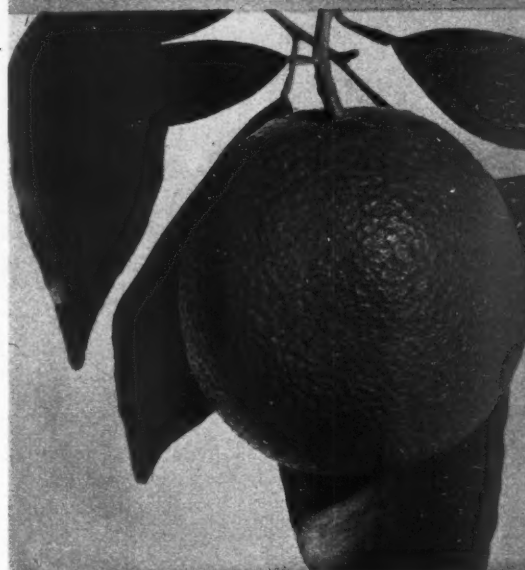
In recent years there has been a considerable attempt to find a satisfactory Navel orange for growing in Florida and a number of new varieties are being planted in a small way at the present time. The majority of these fall in the early orange class with a few coming in midseason.

Exceeding even the Washington Navel orange in production in California is the Valencia orange. This orange is harvested after the Navel Washington orange, from about March 1 to November 1. The alternate bearing of these two varieties is the reason for California's year-around crop. The Valencia orange is attractive, of high quality and has relatively few seeds. As with the Washington Navel orange, there is a noticeable effect of different climatic zones upon the fruit and tree of the Valencia variety. In Florida this is the principal late

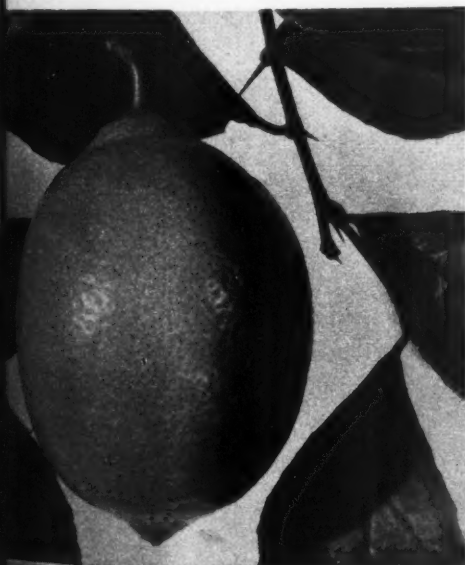
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Washington Navel orange is the standard winter orange variety in California. It has the advantage of being seedless and rich in flavor and quality.



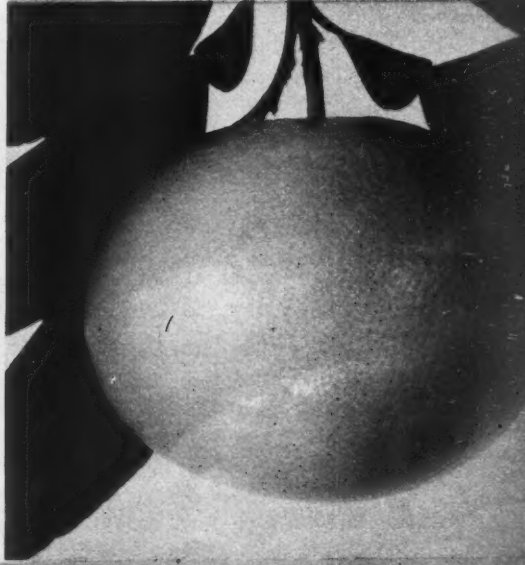
The Valencia orange is grown in nearly all citrus sections. It is a summer variety in California and a well-established late variety in Florida.



The Lisbon lemon variety is vigorous, productive and suitable for planting in nearly all citrus districts. It is considered a winter variety in California.



Eureka lemon is the leading variety of California coastal citrus districts. There have been recent plantings of this variety also in Arizona groves.



The Marsh seedless grapefruit is the most extensively planted variety in Florida, the Rio Grande Valley, as well as in Arizona and California.

Photos courtesy California Agr. Exp. Sta.



Left—Society members earn money by pruning trees and shrubs. Pictured here is John Louzecky who earned over \$150 last spring. Five per cent of this went to the Society.

ing Farmers' Week in January on the University campus. The purpose of this Show is to have apple and potato growers of the State bring in their prize products and enter them in a competitive exhibition for commercial and cash prizes. Each year several hundred dollars worth of prizes, donated by commercial concerns, is distributed to the best exhibitors. The Society also erects a feature exhibit for the Show which usually consists of a very attractive display of apples. This year the Society adopted the idea of auctioning off the display of prize fruit and potatoes to the highest bidder for a window display at the conclusion of Show week. Previously the Show had been all expense, with no income. This year it is expected that the Show will pay for itself as a

## STUDENT FRUIT GROWERS SEE BRIGHT FUTURE

By ELDON S. BANTA

Ohio Student Horticultural Society  
Ohio State University

AS a younger member of a family interested in fruit growing, I rarely have seen articles in magazines which would suggest that there is a coming generation in the fruit growing field. During my high school and college days which I just have completed, I often wanted to hear what other young fellows with the "horticultural yearn" were thinking and doing. To initiate more information along this line and to let older horticulturists know that there is a younger generation, I have written a summary of the activities of an aggressive student group, "The Ohio Student Horticultural Society," which is probably typical of many such organizations at state universities.

The horticulture students in the Agricultural College, Ohio State University, have been organized for over 40 years. When John F. Cunningham, present Dean of the College of Agriculture, was a student in this University, the horticulture students were organized in the "Asparagus Club" and in the early 1900's the present Society was formed. Today this organization of horticulture students stands solidly among its kind over the country.

The present membership of the Society numbers some 75 undergraduate and graduate students who are majoring in horticulture. These young men and women come from all walks of life and they present an excellent cross-section of horticultural and related experiences. Working to-



Above—This is part of the coming generation in horticulture. These students comprise the Ohio Student Horticultural Society for 1941. Young horticulturists from similar societies throughout the country will help these students carry on the horticultural industry of tomorrow.

Cash prizes, totaling \$500, subscriptions and miscellaneous articles will be awarded at the 1941 Horticultural Show, sponsored by the Ohio Student Horticultural Society, January 26-31, during Farmers' Week at Ohio State University, Columbus. These prizes will go for prize winning bushel baskets, trays and plates of common varieties of apples.

gether as a group, they have formulated and conducted many worthwhile projects and activities.

Co-operation between the faculty and Society has been most favorable. Perhaps many of the valuable activities of the organization have been given new momentum by the interest and concern shown by the faculty.

Activities, varied and interesting, are the real source of interest in the Society. The most prominent is the annual Horticultural Show, held dur-

result of the auction.

A lunch stand, operated during Farmers' Week, provides the Society with most of its yearly income. Last year some \$500 were received from the stand. It requires about 12 or 15 men, all working on schedule between classes, to operate the stand at the noon hour.

For the past few years the Society has been putting from \$25 to \$30 yearly into improving the Horticulture Reading Room. A new lighting system, repair of tables and chairs, painting and cleaning, purchasing of new books, and subscriptions to newspapers and magazines have been some of the improvements made.

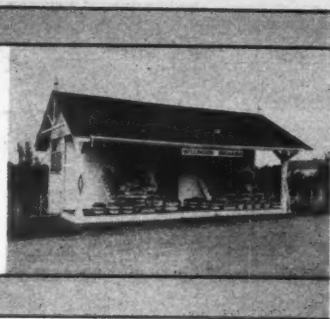
Of special interest to the members are the bi-weekly meetings of the Society during the school year. The program usually consists of a speaker, motion pictures, or group discussions of horticultural interest. Occasionally,

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# MARKETING



## "SAFETY FIRST" BUILDS ROADSIDE SALES

TOO little thought is given to the perils and mishaps that surround the roadside market operator and his customer. Unsuspectingly, both pursue their operation of buying and selling, giving no thought to the dangers that are in store for them if the proper caution is not taken, and if the proper facilities are not provided for the operation of their business.

A driver stops at a roadside market, concentrating on the purchases which he desires to make, and too often he does not consider his own personal safety. Likewise, the roadside market operator in his anxious attempt to please his customer forgets to pay heed as he hurries about at the roadside. Both have a sublime confidence in the safety of their beings that is neither warranted nor safe.

Prime reason for danger at the roadside market is a lack of parking space for the automobiles of customers. This immediately creates a series of dangers on the roadside: there is double-parking; there is the necessity of walking back and forth across the road if a car is parked opposite the stand; there is a congestion of traffic; there is encroachment on the right-of-way of public property if the car is parked on the public highway in front of the stand. The National Safety Council points out that "It is illegal in most states for a vehicle to be stopped on the right-of-way for service at a commercial establishment."

Sufficient parking space with definite driveways for entrance and exit on one side, or both, or in the back of the roadside market stand will eliminate these dangers and avoid traffic confusion besides making it easier for customers to stop and trade.

Location of a roadside market stand is of vast importance and, if properly selected, it is good insurance against traffic casualties. A grower naturally selects a location which he thinks offers maximum possibilities for good business but, at the same time, he should give equal consideration to the problem of traffic safety.

Logically, stands should not be built on sharp curves or on the brow of steep hills. In these two instances the motorist does not discover the stand until he is within a short distance and then it may be too late to stop. If he is undecided as to whether or not he wants to stop and, consequently, shifts gears and drives at irregular rates of speed, he causes disconcerting confusion on the highway. The driver who casually stops on the inside of a curve creates great danger for himself and for the oncoming motorist who cannot see him until he is too close to stop.

Generally, drivers observe the precaution of ascending a hill at moderate rates of speed; nevertheless, there is the exception and he is the one who may be going at terrific speed and who suddenly finds himself rushing onto a car that is parked in front of a roadside market stand on the other side of the hill.

But it is not only the operator who must

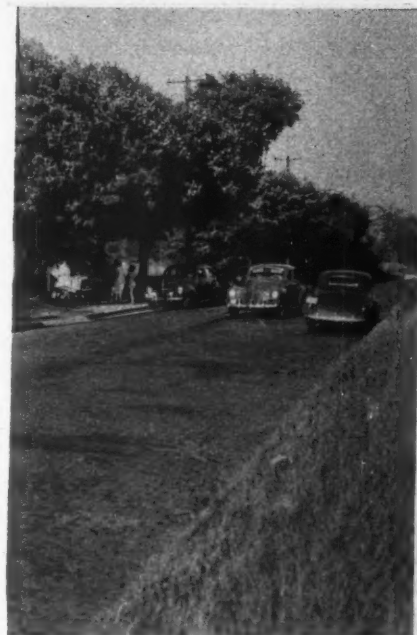


take measures of safety to insure successful and happy roadside marketing. The consumer must do his part. He must handle his car so that it is not a menace or an aggravation to other drivers. He must be careful in crossing the roads. If he has children with him, he must see that they are not running around other cars, stepping off the curbs, or playing on the running boards of the car.

No customer will continue to trade at a roadside market where he has seen an accident. No fruit grower is going to enjoy working on a scene where misery and damage has been sustained as a result of an accident. No roadside market is going to flourish if accidents and casualties have marred its reputation.

Henry Wallace of Tennessee believes in roadside markets. The market, built by his father, the late Lee Wallace, on the Clinton Highway near Knoxville en route to Norris Dam, was destroyed by fire last May but already Mr. Wallace has rebuilt. In addition, with the prospect of having to market heavy peach and apple crops this year, he built another market on the Gatlinburg road, leading into the Great Smoky Mountains. Both markets are near enough to Knoxville to have regular city patronage and each is on a route of heavy tourist travel.—A. N. PRATT

Less than half as many Canadian apples as last year may seek an outlet in the United States this season, according to the United States Department of Agriculture. This is because of a short crop and increased buying of fresh apples by Great Britain. The British Ministry of Food recently decided to purchase about 2,100,000 bushels of Canadian fresh apples. There are some indications that, as the season advances, United States apples may be attracted to Canadian markets.



Top—This picture shows what happens on a busy Saturday afternoon where no space is provided for car parking. Customers run the risk of being hit by another car as they carry purchases of fruit to their automobiles.

Above—Down the road, this situation was observed. An auto traveling towards the car in the center of the road would have no chance to pass without hitting another car. This condition alone causes many accidents.

# STATE NEWS

**VIRGINIA**—W. S. Campfield, Secretary-Treasurer of the Virginia State Horticultural Society, notified fruit growers of the State that he is trying to get a 25 per cent reduction in railroad freight rates for growers.



W. S. Campfield

Already 65 per cent of eastern apples and peaches are moving by truck. This means that, if the railroads do not co-operate with a reduction in their rates, the entire local apple and peach transportation soon will be in the power of one transportation system which would prove very critical if strikes, government restrictions, gasoline shortages, or other demands were to tie up the trucking business. Such sudden tie-ups would find the railroads without the necessary equipment available for shipment of fruits and growers would find themselves with over-ripe fruit and no means of moving it. For the safety and good of all the apple and peach industry, Mr. Campfield says, "We should ship more fruit by rail."

**CONNECTICUT**—Time for the Elberta peach and McIntosh apple harvests arrived simultaneously early last month and, because of weather conditions, it was necessary to harvest both fruits at the same time. Peaches were excellent but prices were only fair.

Many growers used hormone spray on McIntosh apple trees in an attempt to delay picking and there was very little McIntosh drop. The general quality of apples was excellent, there was little insect and disease blemish in the crop, and color and fruit sizes were very good.

Growers had a real problem in their attempt to use inexperienced help to harvest the McIntosh apple crop without bruising. In spite of the efforts of the Fruit Harvest Labor Committee and various state organizations, fruit growers still were in need of apple pickers. One grower found that high school girls, working from three to six o'clock in the afternoon, helped to relieve his harvest labor problem. Other growers transported high school boys for afternoon work in the orchards. Tramp harvest was more common than usual. Generally, fruit growers were most satisfied



G. Leslie Smith

with defense industry workers who spent part days and weekends picking apples. Many of these men were experienced apple pickers and they were glad to be out in the sunshine and to get some exercise.—H. A. ROLINS, Extension Fruit Specialist, Storrs.

**ILLINOIS** — Patents are pending on a new impulse sales utility package which will bear the trade mark, "Kitcheneat," and which has been originated by G. Leslie Smith, well-known apple grower of Rock Island and past President of the Illinois State Horticultural Society. A number of growers used his new package last winter and found it to be very successful.

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**GEORGIA**—This State's peach growers in a recent session approved action leading to an early referendum on a federal marketing agreement and appointed W. C. Bewley General Chairman of a committee which will draw up a proposed agreement for the peach industry. Mr. Bewley is Manager of the Georgia Peach Growers Exchange. As soon as other members of his committee are appointed, a proposal which will be submitted to all growers will be drawn up. Only three in this recent meeting of more than 100 peach growers opposed the agreement to control grades and sizes and two members were undecided.

**ARKANSAS**—This has been a "fruit" year in this State. Strawberries, peaches, grapes, and apples have yielded heavily. All fruits have moved fairly well and the Surplus Marketing Administration has helped considerably with peaches.

However, it has been a poor year as far as the apple codling moth is concerned, especially for apple growers in the southern edge of the apple belt. It is increasingly apparent that nicotine and arsenate of lead are not deadly enough to combat successfully with this pest and growers are anxious to find a really effective codling moth spray.—THOMAS ROTHROCK, Sec'y, Springdale.

**MARYLAND**—J. Andrew Cohill, Hancock, with representatives of 16 other states, represented Maryland at the national apple planning committee meeting in Washington last month.

Meeting was held in connection with a proposed policy for eliminating cull fruit from the market, a plan which is similar to the one which is being presented in a poll to all Maryland growers. In this poll letters are being sent to all commercial growers in the State with return cards on which they are asked to record their vote as to the proposed marketing policy wherein the chief aim is to eliminate culls as far as possible and to insure reasonable sales of better quality fresh fruit. Dr. T. B. Symons, extension service official who is in charge of the program, has appointed a committee to handle the poll and to study the grading situation of Maryland apples, revising grading laws and formulating more orderly marketing methods.



J. Andrew Cohill

**SOUTH DAKOTA**—Officers elected at the last meeting of the South Dakota State Horticultural Society, held at Yankton, are: George W. Gurney, Yankton, President; H. E. Beebe, Ipswich, Vice-President; H. N. Dybvig, Colton, Treasurer; W. A. Simmons, Sioux Falls, Secretary.

A satisfactory tour of nurseries in the Missouri Valley was held in connection with the meeting. The alluvially deposited soil is so rich in the Valley that almost no fertilization is necessary to secure optimum growth. Boysenberries which wintered without protection bore a full crop of delicious, though soft, berries and the Robertson black raspberry proved to be perfectly hardy and very productive in this area.—W. A. SIMMONS, Sec'y, Sioux Falls.

**FLORIDA**—Growers of this State need not fear a shortage of those chemicals which they need for seed and soil treatments, particularly in the citrus areas and in the Everglades winter vegetable section, as Washington has assured Hon. Nathan Mayo, State Commissioner of Agriculture, that growers will be able to obtain these necessities.

AMERICAN FRUIT GROWER

## WINDSTORM SWEEPS APPLES FROM TREES

A WINDSTORM approaching hurricane proportions swept across the states of Illinois, Indiana, Ohio, Michigan, and Western New York, Thursday, September 25, and blew a large proportion of the apple crop from the trees. Coming at the height of the Harvest season, the storm made windfalls out of anywhere from 15 to 75 per cent of the unharvested apples, depending on whether or not the orchard was in the direct path of the gale. One grower in Ohio estimated the wind cost him \$30 every minute it lasted, while another said he now has 10,000 bushels of drops to sell instead of 10,000 bushels of U. S. Fancy.

The Surplus Marketing Administration has made special provisions to buy the drop apples in order to help growers. Prices will range from 65 cents to 85 cents a bushel.

Furthermore, after some reports of difficulty in securing supplies had been received in Washington, John W. Frey, Director of Marketing for the Department of Agriculture, telegraphed Governor Holland that farmers and fruit growers are entitled to, and shall receive, their necessary requirements of gasoline.

**PENNSYLVANIA**—The Pennsylvania State College now offers an intensive four weeks' course of training to those who are interested in commercial fruit growing but who cannot spend two or four years in college.

The course provides practical instruction in the production of tree and small fruits. Approved methods of pruning and care of trees and other fruit plants, packing and storing fruits, and identification of varieties, insects and diseases are the principal phases of fruit growing which will be studied.

This stream-lining course starts November 19 and closes December 17. It is under the direction of the Director of Short Courses, School of Agriculture, State College.—F. N. FAGAN, Professor of Pomology, State College.

**IOWA**—At the 30th Annual Meeting of the Iowa Fruit Growers Association, November 13-14, a memorial tablet will be dedicated to the memory of Suel Foster, pioneer Iowa horticulturist. Mr. Foster created the idea of establishing an agricultural college which later became Iowa State College at Ames.—R. S. HERRICK, Sec'y, Des Moines.

**WASHINGTON**—Because a survey has divulged that driers and canners are taking care of all the culls at prices which were suggested by the fruit sub-committee of the Land Use Committee, apple growers of Yakima Valley will withhold operation of an organized cull apple diversion program.

The prospective quantity of culls in the Yakima Valley has been estimated at 20,000 to 21,000 tons which is 40 per cent normal, the reduction being due chiefly to a cleaner crop of apples.

**TENNESSEE**—W. C. List, who for the past five years has managed the 400 acre orchard whose peaches are packed under the "El Dee" Brand, was called to the colors about a month before harvest. Lieutenant List has been a member of the Reserve Corps for a number of years.—A. N. PRATT, State Horticulturist, Nashville.

**MICHIGAN**—With proper co-operation of fruit growers in the State, it has been estimated that Michigan can be rid of its wild chokecherries within a period of 15 years. The chokecherry is alternate host to the "X" disease of peaches and the only control of this disease is destruction of all chokecherries that are within 500 feet of a peach orchard. Now peach growers are getting information through county agricultural agents on the control by spraying and killing chokecherries.

OCTOBER, 1941



# STATE BY STATE

(Continued from page 9)

2½ inches high. All U. S. grades have been adopted as the official grades for Missouri. In addition, a Missouri State grade "Domestic" for usable drop apples was established. Such designations as "Unclassified," "Ungraded," "Grower's Grade," and "Orchard Run," are not permitted under Missouri law. Growers must also pay an advertising fee of one penny in order to promote the sale of Missouri apples.

MONTANA—All containers used in packing apples for sale, among other requirements, must be marked with grade and number of apples or net weight of contents. U. S. grades are not used. Montana grades are: Extra Fancy or First Grade, Fancy or Second Grade, C Grade, Cull Grade, Combination Grades, and XFFC Grade (combination of Extra Fancy, Fancy, and "C" Grades). No apples smaller than 2¼ inches are permitted in any grade. Smaller apples may be shipped if marked "Small."

NEW HAMPSHIRE—Apples in closed containers must be marked, among other requirements, with minimum size. The grade may be omitted. For grading, either New Hampshire or U. S. grades may be used. New Hampshire grades are: Extra Fancy, Fancy, Combination, "A" Grade, "B" Grade, and Unclassified. In addition New Hampshire has the following grades for the sale of apples in other than closed packages: Extra Fancy, Fancy, Utility, Choice, and Cooking. No other grades may be used for these apples.

NEW JERSEY—Growers use U. S. grades. There are no New Jersey grades. Grading is not compulsory.

NEW YORK—Every closed container of apples must be marked, among other requirements, with the grade and Minimum Size. New York grades are practically identical with U. S. grades. According to New York law, the Commissioner of Agriculture must fix and promulgate official standards for grading apples and these standards must not be lower in their requirements than the minimum requirements of the official U. S. standards for corresponding grades of apples. New York law also specifies that open packages of apples containing more than 15 per cent by weight or measure of culls cannot be sold unless the packages be marked plainly with the word "CULLS." No apples defined as culls can be included in any closed package of apples.

NORTH DAKOTA—Grading is not compulsory. North Dakota growers use U. S. grades.

OHIO—Among other requirements, apple containers must be marked with the grade and the minimum size. U. S. grades are used with a Domestic Grade added for dropped apples. Apples must be marked "CULLS" in letters at least 2½ inches high if they do not meet any of the established grades.

OREGON—Grading is not compulsory in Oregon. However, state grades have been established which are used generally. They are: Extra Fancy or First Grade, Fancy or

# APPLE GRADES

(Continued from page 9)

transit is considered as affecting condition and not the grade.

In order to allow for variations in grading and handling, a tolerance of 10 per cent is allowed for apples which may be below the requirements of the grade. However, the 10 per cent is allowed on the condition that not more than five per cent are seriously damaged by insects and not more than one-fifth of this amount or one per cent are decayed or have internal breakdown.

According to U. S. standards, the numerical count or the minimum size of the apples packed in a closed container must be indicated on the package. When the numerical count is marked on the container, the apples must not vary more than one-fourth inch in their transverse (crosswise) diameter. When the numerical count is not shown, the minimum size must be plainly stamped, stenciled, or otherwise marked on the container in terms of whole inches, whole and half inches, whole and quarter inches, or whole and eighth inches, such as 2½ inches minimum, 2¼ inches minimum, or 2⅝ inches minimum. It is desirable to mark both minimum and maximum sizes on the container, as 2¼ to 2¾ inches, or 2½ to 2¾ inches.

This article has attempted to give a more or less basic understanding of grades so that growers may understand more completely U. S. Standards for apples. Full details such as color requirements for all apples or the allowances for all damages have not been given. To obtain these, growers should write to the Agricultural Marketing Service, United States Department of Agriculture, Washington, D. C., and ask for Service and Regulatory Announcement 154, "United States Standards for Apples."

Proper marking of apples with the grade and size is of great help in the marketing process. Housewives, knowing what grade of apples they are purchasing, will buy with confidence where before they hesitated to buy because they did not know what they were getting. By conscientiously grading his apples, the grower in the long run will help himself by bringing in greater profits due to greater sales. U. S. grades provide a common language which growers all over the nation should understand.

With much emphasis being placed on advertising fruits, grading becomes more and more important. This is because standardization is basic to effective programs to advertise high quality fruit. It is interesting to note that those states which have advertising fees of one penny per bushel also have effective grading laws.

AMERICAN FRUIT GROWER

# STATE BY STATE

Second Grade, "C" Grade or Third Grade, Fourth Grade, Combination Grades, Orchard Run, Hail Grade, and Open Container Pack.

PENNSYLVANIA—Pennsylvania has no compulsory apple grading law. The State has adopted U. S. grades as official for use in the state but their use is voluntary.

RHODE ISLAND—Among other requirements, each closed container of apples must be marked with the minimum size or numerical count of the variety. However, it is not necessary to mark the grade on the container. Rhode Island Grades are: Rhode Island Extra Fancy, Rhode Island Fancy, Rhode Island Combination, Rhode Island "B," and Rhode Island Unclassified.

SOUTH DAKOTA—South Dakota has no compulsory apple grading law. U. S. grades are used.

TENNESSEE—There is no compulsory grading law in Tennessee. Growers rely on U. S. grades.

UTAH—There is no compulsory grading law in Utah. Growers mostly use U. S. grades. Utah grades are: Utah Extra Fancy, Utah Fancy, Utah "C" Grade, and Combination grades.

VERMONT—Every container of apples which is offered for sale must have, among other things, the variety, grade, and minimum size or count marked on it. With exception of Vermont Extra Fancy, the grades are the same as U. S. Apple grades.

VIRGINIA—Virginia grades are the same as U. S. grades except for the grade "Virginia Domestic." Among other requirements, every closed container offered for sale must be marked with the grade and minimum size. Apples in open packages which do not meet grade requirements of Virginia Domestic must be marked "CULLS" with letters four inches high. Virginia growers who pack in the standard apple box or other standard containers of apples sized to ¼ inch or ½ inch may use Washington Apple grades.

WASHINGTON—Among other requirements, growers must grade their apples and mark on the container the grade and number of apples or net contents. Washington grades are: Extra Fancy or First Grade, Fancy or Second Grade, "C" Grade, Combination Grades, Hail Grades, Culls, and Infested Culls. Growers also must pay an advertising fee of one penny per bushel in order to promote the sale of their apples.

WEST VIRGINIA—Growers must mark closed containers, among other requirements, with grade and minimum size. U. S. Grades are used.

WISCONSIN—Wisconsin has no compulsory grading law or regulations for apples. U. S. grades are used.



Photo courtesy Calif. Fruit Growers Exchange  
From the seed-bed young citrus trees about 12 inches high are transplanted to a nursery where they are allowed to grow for a year or two more before they are budded.

## CITRUS SURVEY

(Continued from page 11)

variety, grown commercially.

Both the Washington Navel orange and the Valencia orange are not adapted to the climatic conditions of the Rio Grande Valley and here the Hamlin orange, an early maturing seedless variety, is favorite with the growers. No known variety will out-yield this one on good Valley soil. The only variety which offers serious competition to the Hamlin orange in this area is the Joppa orange whose tree has characteristics which are somewhat similar to the Navel variety though, in its fruiting habits, the tree is more like the Valencia.

In Florida the Hamlin orange ripens during the same period as the Parson Brown which is the standard early variety, both ripening between September and December. Though the Parson Brown still constitutes the major part of the early production in Florida, the Hamlin orange has been more heavily planted during recent years.

The midseason production of the orange crop in Florida is comprised of the Pineapple orange and, since the freeze of 1894-95, practically no additional plantings of mid-season varieties have been made and most of the planting stock is used for replacements. There have been scattered plantings in Florida of the Jaffa orange which is somewhat intermediate between the early and midseason varieties. The Pineapple orange is not favored for commercial production in the Rio Grande Valley, being seedy and in no way superior to the Hamlin variety which ripens in the Valley around October 15.

The Lue Gim Gong variety is running a close second to the Valencia orange in present plantings in Florida. This is a late variety, very similar to the late Valencia orange and, perhaps, has been planted almost as

widely in recent years as the Valencia.

### GRAPEFRUIT •

In California the commercial grapefruit industry is based entirely upon the Marsh Seedless variety. This is also the most extensively planted variety in Florida, the Rio Grande Valley district and in Arizona. It comprises the principal citrus crop of this last State. In the Rio Grande Valley the ripening season is later than in California, being from October 15 to December 1, and in Florida this variety matures in midseason.

In the case of grapefruit, the Pink Marshall variety, an excellent one which is relatively seedless and which has flesh that is attractive pink in color, was available for commercial planting as early as 1924. In 1933 the Ruby grapefruit, which is similar to the Pink Marshall grapefruit, was discovered and since then it has been heavily planted, especially in the Rio Grande Valley.

The Duncan grapefruit is the most common seedy variety and, though few varieties equal it in flavor, this fact is not sufficiently pronounced to offset the seedlessness of competitive varieties. In Florida the Excelsior, Silver Cluster and numerous other varieties are sold at times under the name of Duncan and for practical purposes all seedy grapefruit in Florida is designated as common with the exception of the McCarty variety which is a larger fruit than normal and which carries on the tree later in the season. There have been some plantings of the pink varieties in Florida, including the Foster pink which is a seedy variety and the Thompson pink which is not seedy.

### LEMONS •

The Eureka lemon and the Lisbon

lemon are leading varieties though the Eureka lemon in California is by far the leading commercial variety. In the Rio Grande Valley it is the standard variety. Lemons are not grown commercially in Florida.

Although the Eureka lemon is considered a spring and summer variety, climatic extremes of the intermediate districts influence to some extent the time at which the fruit is produced. The Lisbon lemon is considered a winter variety but it, likewise, is influenced by the intermediate sections where good production is maintained from January to May.

In Arizona there have been some plantings of the Eureka lemon. With constantly increasing number of air-conditioned packing houses, the Lisbon may increase in popularity in California as fruit to be held over until the summer crop appears. The Hayden lemon, a type of lemon recently discovered in the vicinity of Edinburg, Texas, has possibilities of growing more popular because of its seedlessness, juicy content and high acidity.

### LIMES •

Though lemons are not grown commercially in Florida, limes are. The main variety is the Persian lime, sometimes called the Tahiti lime. This is the only lime which is grown to any extent at the present time and it is of considerable interest. Acreage planted to limes in California has increased during recent years and a total of 788 acres was estimated in 1940. The Bearse variety is preferred for planting in this State and it now occupies about three-fourths of the total lime acreage. The Mexican lime appears to be the leading commercial type in the Rio Grande Valley.

### OTHER TYPES •

The Dancy tangerine is the only prominent variety of interest in this branch of the citrus family. Though not grown commercially to a large extent, the Dancy tangerine is the only commercial variety that ever has been grown on a large scale in Florida. There have been small plantings of other varieties, notably the Oneco and Warnuco varieties but these represent only a small percentage of plantings.

Acreage of mandarin varieties is relatively small in California but three new varieties, the Kara, Kinnow and Wilking mandarins, are receiving considerable attention. Of these, the Kinnow promises to be quite productive in the Rio Grande Valley.

Kumquats are not grown extensively though the best known and most widely propagated of kumquats, both in the Rio Grande Valley and Florida, is the Nagami variety. Another in the Valley district is the Meiwa kumquat which contains more juice than the Nagami but which is less productive. The kumquat is not planted commercially in California.



## YOUNG HORTICULTURISTS (Continued from page 12)

a speaker will be engaged whose interest lies wholly outside the field of horticulture.

Each fall the members try out for the fruit judging team. The three highest ranking individuals and an alternate, with their coach, are sent by the Ohio State Horticultural Society to other states to compete in the Eastern States Intercollegiate League. In the past the Society's teams have furnished some of the toughest competition for other schools. This year the Society donated a second award loving cup to the League. This judging activity not only affords thrills for the team and members but also serves to stimulate a desire to grow higher grade fruit.

Publicity is a by-word with the members. Last year it was necessary to elect a publicity manager and an assistant. The Society also recently began publishing a paper called the "Snoop Scoop." It is sent to all those who have graduated from the Society and the horticultural department as well as to the present members. Newspaper articles and magazine articles constitute other means of stimulating interest in the group and in getting to the public facts about an active organization in horticulture.

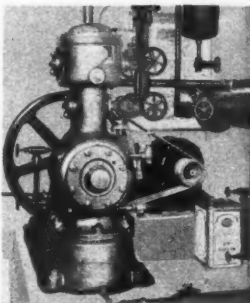
Parties, picnics and dances form a definite part of the program each quarter of the school year.

"Work and more of it" seems to be the Society's motto. During the winter and early spring months members are to be found, during their spare time, pruning orchards and shrubbery. The supervision of pruning work has been taken over by the Society and is under the direction of an elected member. The Society furnishes tools and places advertisements and articles about pruning work in the Columbus newspapers. Upon receiving a telephone order for a pruning job, one or more members are assigned to the job. Those assigned must meet certain requirements. They must be members in good standing, have had training in pruning at the University, and have proven themselves competent to do pruning work in the field. To get started the younger and less experienced work with the more experienced and advanced men. After they have sufficient experience, they are permitted to work alone. A minimum wage of 50 cents per hour has been established and the students give five per cent of their wages to the Society for the purchase and maintenance of pruning tools, for paying for advertisements and other expenses. Thus, the object is two-fold; it helps the students earn money with which they can help meet their college expenses, and it aids in promoting the organization.

OCTOBER, 1941

## Plan Your Refrigerated Farm Storage Now!

The Lenape Orchards, at Barto, Penna., use this Frick 4 by 4 Machine for Holding 10,000 Bushels of Apples at a Cost of 10c a Bushel.



NOW is the time to arrange for the cold storage, right on your farm, in which you can keep fruit and other products a whole season for as little as 10 or 12 cents a bushel. Frick automatic Refrigeration does it most dependably and economically. Bulletin 146-C, just off the press, gives full facts and figures; write FRICK CO., Waynesboro, Penna.



The Original Ethylene Dichloride Emulsion for Use Against the

### PEACH TREE BORER

The safest, most effective and most modern chemical for control of this insect.

It is applied around base of tree, and no further attention is required. Effective at any season when mean temperature is above 40°F. and ground is not frozen.

One gallon will treat: 58—6 yr. old trees; 72—4-5 yr.; 96—3 yr.; 192—2 yr., and 768—1 yr.

Packed in Pts., Qts., 1/2 Gals., 1 Gal., 5 Gals., 10 Gals., 25 Gals., and 55 Gals. containers.

Write for pamphlet giving full information

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### BRUSHER that cleans Apples, Potatoes, Peaches, Etc.

WRITE FOR FOLDER AND PRICES  
Farmers Mfg., Sales and Service Corporation  
Middleport, New York

"The Horticulture Club goes Hollywood," was an expression heard on the Ohio State campus last year. This is the newest and, perhaps, one of the most progressive activities of any group of college students, namely, a movie production. "Activities in Horticulture" is the title of this 50-minute movie, recently released by the Society. The scenes cover all activities of the horticulture students. It is educational as well as entertaining for it covers field trips to various commercial concerns, the experimental work of the department of horticulture, and classroom and laboratory work. The pictures were taken on 16 mm. color film by members of the Society and of the faculty who are experienced and skilled in the art of photography. The film is open for engagement to any individual or group for a small sum, covering transportation expenses.

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## TREE PRUNE YOUR WAY TO EXTRA PROFITS

Hit or miss pruning won't produce a profit—yield any more than any old pruner will do the right job. It's in knowing how—and knowing, too, the right tools to use.

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Suffer Distress  
At This Time—

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Try Lydia E. Pinkham's Vegetable Compound—made especially for women—it helps relieve distress due to this functional disturbance. Lydia Pinkham's Compound helps build up resistance against such annoying symptoms of "middle age." Follow label directions.

PAGE 17

## NORTHERN NUT GROWERS MEET AT HERSHEY

ABOUT 75 persons from 17 states attended the Northern Nut Growers' Association 32nd Annual Meeting in Hershey, Pennsylvania, on September 4-6. Papers on various phases of nut culture, with special emphasis on walnuts, were presented. Chestnuts and hickories likewise received considerable attention.

One afternoon was devoted to the plantings of the late Dr. G. A. Zimmerman at Piketown, near Harrisburg, where a large collection of nut tree varieties has been assembled. Many of the hickories there had been grafted on native seedlings in the woods and some of the older varieties had begun to fruit. An interesting collection of persimmon and selected papaws was in bearing, illustrating the

possibilities of improving these native fruits.

An inspection was made of the Japanese chestnut planting of Charles V. Stein, near Manheim. Here were several large Japanese chestnuts, some of which are 80 years old, and younger trees and nursery stock. Little, if any, damage was evident from chestnut blight.

At the J. F. Jones Nursery at Lancaster, operated by Miss Mildred Jones, luncheon was served. Of especial interest here were a number of large Persian walnut trees, other large walnuts and hickories. There also was a number of selected filbert hybrids which have been produced by crossing the Rush hazel with certain varieties of the European filbert. On the lawn here is an unusually fine specimen of *Corylus cornuta*, the Turkish tree hazel. In the nursery were several small plants of the Josephine persimmon which were loaded with fruits. Most of these fruits were seedless, presumably from lack of pollination. The Josephine persimmons are interesting and worth-while plantings.

The 1942 meeting of the Association will be held in Toronto, Ontario, during the week of the Canadian National Exhibition. Since this is somewhat earlier than usual, members are requested to save nuts from this year's crop for next year's exhibits.

Officers of the Association for the ensuing year are: President, Carl Weschke, St. Paul, Minnesota; Vice-president, Dr. L. H. MacDaniels, Ithaca, New York; Treasurer, D. C. Snyder, Center Point, Iowa; Secretary, George L. Slate, Geneva, New York.—GEORGE L. SLATE, Sec'y., Northern Nut Growers' Assn., Geneva, N.Y.

## INSECTICIDE GROUP TO HELP GROWERS

AT the Annual Meeting of the Agricultural Insecticide and Fungicide Association, held September 11-12 at Shawnee-on-the-Delaware,



W. H. MOYER

Warren H. Moyer was re-elected President and Lee H. Hitchner, Secretary-Treasurer.

In an effort to assist growers in insect and disease control, W. P. Flint, Chief Entomologist at the Illinois Agricultural Experiment Station, was asked to present a plan of operation. Professor Flint urged closer co-operation with entomologists, plant pathologists and growers and he suggested regional meetings similar to those held in the Northwest where mutual problems of manufacturers and growers are discussed.

To bring the work of the Association in insecticide and fungicide control before the growers, \$1,000 appropriated for space and display at winter meetings of horticultural societies.

**CHESTNUT TREES**

**BUY BEARING BLIGHT-RESISTANT CHINESE CHESTNUTS**

Nuts in Four Years  
Ideal Trees for Your Door Yard

PLANT FOR BEAUTY—PROFIT—SHADE—NUTS—FUN  
Heavy yielding Northern Strains. Send postcard today for FREE Booklet and price list. English Walnuts, Stabler Black Walnuts, etc. I have experimented with nut trees for over 44 years.

SUNNY RIDGE NURSERY, Box FQ, Swarthmore, Pa.

**FRUIT TREES**

In the newer and better varieties offered by Virginia's Largest Growers. Write for Free Copy 44-page Planting Guide and New Fall Price List.

**WAYNESSBORO NURSERIES**  
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**NUT TREES** Black and English walnut.  
Filbert, Northern Pecan, Hickory, Blight Resistant Chestnuts. Finest varieties. All shipments from freshly dug stock. Send for catalog.

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Dept. A-1040 Lancaster, Penna.

## GROWING FRUIT TREES

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In the fertile, rich, historic Schoharie Valley, 100 acres. Inquiries solicited from New York, New England, Pennsylvania, New Jersey and Ohio. Write us now.

**F. A. GUERNSEY & CO., Schoharie Nurseries**  
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**PLANT THE FISHER PEACH**  
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- STRONG GROWER
- EXCELLENT SHIPPER

Increase your selling season by five to six weeks. Increase your profits with this new successful variety.

WRITE FOR COLOR FOLDER AND FULL INFORMATION

**CALIFORNIA NURSERY CO.**

Our 77th Year

**NILES, CALIFORNIA**

**FRUIT TREES**

FALL PLANTING IDEAL  
For Apple—Pear—Plum—Cherry

We grow the trees we sell and have 57 YEARS back of our guarantee of satisfaction.

**MALONEY BROS. NURSERY CO., Inc.**  
17 Main St., Danville, New York

**MALONEY'S CATALOG FREE**

## GUNS, TANKS AND—APPLES

AMERICA promises us guns, planes, tanks, ammunition—and food. All these are vital things and, among items of food, we would like to see apples prominently mentioned to take the place of our disappearing stocks.

The Apple is the favorite cleansing and vitalizing element of food among all the classes, and the health of the nation would benefit considerably by a consignment of those attractive Apples to brighten the menu of busy people.

We admit that in many ways vegetables—and especially raw vegetables and salads—can perform a similar function to the Apple, but in these days of long hours and irregularity such foods cannot always be prepared in time. There is always time to eat an Apple, and it is the busiest people who need them.—*Market Grower, Salesman, and Fruit Trader, London, England; and Fruit World, Melbourne, Australia.*

## STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

OF AMERICAN FRUIT GROWER, published monthly at Cleveland, Ohio, for October, 1941.

STATE OF OHIO } ss.

COUNTY OF CUYAHOGA }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared E. G. K. Meister, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the AMERICAN FRUIT GROWER and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, American Fruit Grower Publishing Company, 1370 Ontario St., Cleveland, Ohio; Editor, J. H. Gourley, 1370 Ontario St., Cleveland, Ohio; Managing Editor, Dean Halliday, 1370 Ontario St., Cleveland, Ohio; Business Manager, E. G. K. Meister, 1370 Ontario St., Cleveland, Ohio.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereafter the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

American Fruit Grower Publishing Company, 1370 Ontario St., Cleveland, Ohio; E. G. K. Meister, 1370 Ontario St., Cleveland, Ohio; R. B. Campbell, Richmond, Virginia; Mary Lee Adams, Greenwood, Virginia.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is (This information is required from daily publications only.)

E. G. K. MEISTER,

Business Manager.

Sworn to and subscribed before me this 24th day of September, 1941.

(Seal) H. Willkom, Notary Public.

(My commission expires October 18, 1941.)



## JOB OF FRUIT GROWER IN NATIONAL DEFENSE

(Continued from page 7)

realized that this is an important achievement toward getting better habits in the diet of the new generation.

When I was a youngster it was a ritual at our house, as it was in almost every other farm home in America, to bring in a big bowl of apples for eating just before going to bed. There was fruit in some form on our table at every meal, both winter and summer. We, as a Nation, have become careless in our eating habits. The fact that more than 40 per cent of our young men, right in the prime of life, were rejected in the Army physical examinations forcefully brings to the attention of our Nation that, if we are to have a strong America, we must have strong, healthy Americans.

In an article by Dr. Russell M. Wilder, Professor of Medicine, The Mayo Foundation, Rochester, Minnesota, and Chairman of the Committee on Food Nutrition, National Research Council, Washington, D. C., he states:

"The need for better nutrition is not limited to this emergency and one permanent good at least seems likely to emerge from the present defense activities. The recognition which nutritional science now must receive comes none too soon. Entirely apart from the present emergency, the nutritional situation is a cause for grave concern. It presents a public health problem of major importance. One sometimes hears men say, however, that our food habits are no worse than they were before we ever heard of vitamins; no worse, these people say, than during the First World War which we fought effectively.

"Actually our food ways for some 60 years have been worse than at any previous time in history. They are worse today than they were in 1914 for the reason that more years have passed since certain detrimental changes were made—some 60 years ago—in the food habits of our people."

From this statement by Dr. Wilder I believe that the fruit growers of America will appreciate that their duty and their opportunity is pointed out clearly.

We, as fruit growers of America, are urged to grow more and better fruit. We are urged to take care of the trees and to see that all fruit is not only properly grown but also properly handled so that there will be the least possible waste and so that this valuable source of health and strength for the American Nation reaches the largest possible number of citizens.

OCTOBER, 1941



## Ring Fertilization Makes Rich Fathers But Poor Sons

Ring fertilization—with a starved cover crop or none at all outside the fertilized ring—means rapid impoverishment of the humus supply; increased liability to erosion; and premature failure of the orchard.

Orchards regularly fertilized with GRANULAR 'AERO' CYANAMID—the lime-nitrogen fertilizer—broadcast at the rate of 400 pounds per acre, receive nitrogen enough for the trees and cover crop; and lime enough to neutralize the soil acidity resulting from sulfur sprays, dusts, and acid-residue fertilizers.



Write for Leaflet F-181

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**WHETHER** you buy our boots and rubbers or other makes, get only the top grade. Top quality boots and overshoes consume less rubber per mile of use. By buying for the longest possible wear, you help save rubber that's vital to defense.

## U.S. ROYAL Tempered Rubber

Toughest farm-footwear rubber ever developed. The longer wear helps save rubber for defense.

Costs Least per year of wear.

**More Comfort!** Tempered Rubber makes possible lighter, more flexible footwear, with more service than the heaviest old-fashioned kind!



**UNITED STATES RUBBER COMPANY**  
1230 Sixth Avenue • Rockefeller Center • New York

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*Clearly Quickly*

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Mass. Approved-Crate  
PACKED BY  
R. D. MARCH  
Shelburne Falls, Mass.

This stamp has interchangeable type to change the size, grade and brand in a second. It SPEEDS YOUR MARKING 200%. Can be made to meet requirements of every state. Write for prices and folder.

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**OTTAWA TRACTOR SAW**

Falls Tree, Cuts Log

Uses Power Take-off any tractor. Saws fast. Easy on fuel. Hundreds of satisfied users. Big labor saver. Low Price.

**OTTAWA MFG. CO., 132 Forest Ave., Ottawa, Kans.**

**FALSE TEETH**

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90 DAYS' TRIAL  
TEST THEM  
EXAMINE THEM

We make FALSE TEETH for you by mail from your own impressions. You have satisfaction of MONEY-BACK GUARANTEE. Customers report satisfaction but you be your own judge.

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## OPPORTUNITY ADS

Only 15c a Word—CASH WITH ORDER.  
Count each initial and whole number as  
one word. ADDRESS: AMERICAN FRUIT  
GROWER, 1370 Ontario Street, Cleve-  
land, Ohio.

### BABY CHICKS

**HINKLE STRAIN BLENDED CHICKS ARE TOPS FOR**  
both broilers and layers. In our strain blended chicks, you  
get extra quick growth, livability and high egg production.  
We will be able to give you reasonably quick delivery of  
all heavy broiler breeds. Can furnish Cockerels and Pullets.  
Write for prices and free catalogue. **GREENSBURG  
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**CIDER PRESSES, LARGE AND SMALL, NEW AND**  
second hand. Graters, filters, supplies. Catalog free.  
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### FARM MACHINERY

**WRITE FOR FREE, BIG 1941 TRACTOR PARTS CAT-**  
alog. All makes. Tremendous savings. Satisfaction  
guaranteed. **CENTRAL TRACTOR WRECKING COM-  
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### FINEST HOSIERY

**LOVELY LOOKING, BEAUTIFUL HOSIERY—4 PAIRS**  
—\$1.25 (Trial 35c). Lasts longer, "DIREX," AF346W.  
**Broad, Savannah, Georgia.**

### FOR SALE

**52 ACRE ORCHARD AND POULTRY FARM, LOGAN**  
County, Illinois. Twelve Hundred twelve-year-old apple  
trees. Good community. Real opportunity and bargain.  
**FRANK TURNER, Lincoln, Illinois.**

**FINE CITRUS GROVE, ORANGES AND GRAPEFRUIT,**  
several varieties, bearing now, mature in four years; 130  
acres in citrus, 40 acres open farm land, 150 acres woods.  
Reasonably priced, terms. **J. F. CHARLTON, Fort Lauder-  
dale, Florida.**

### MALE HELP WANTED

**WANTED: RESPONSIBLE MAN PREFERABLY WITH**  
knowledge of fruit growing to devote full or part time  
to taking orders for fruit trees and ornamental stock.  
No delivering or collecting. Weekly commission check.  
Many men making \$35 to \$50 weekly. Write at once.  
**MALONEY BROTHERS NURSERY CO., Danville, New  
York.**

**STEADY WORK—GOOD PAY. RELIABLE MAN**  
wanted to call on farmers. No experience or capital re-  
quired. Pleasant work. Home every night. Big money  
every day. Some making \$100 in a week. Wonderful new  
proposition. Particulars free. Write **MENESS CO., Dept.  
523, Freeport, Illinois.**

**WANTED: A MARRIED MAN TO MANAGE A FRUIT**  
farm in Illinois. State age, experience, and furnish refer-  
ences. Address Box 180, Macomb, Illinois.

**MEN WANTED TO REPRESENT AMERICAN FRUIT**  
grower in New York, Massachusetts, New Jersey, Virginia  
and West Virginia. No experience necessary. Permanent  
position with good pay. Write giving age and three refer-  
ences. **AMERICAN FRUIT GROWER, 1370 Ontario  
Street, Cleveland, Ohio.**

### NURSERIES

**THIN-SHELL BLACK WALNUTS—RAPID GROWERS,**  
beautiful shades; bear 2nd year. Nuts large, easily cracked.  
Catalog free. **CORSICANA NURSERY, Corsicana, Texas.**

**ROSE BUSHES, STRONG, 2-YEAR, FIELD-GROWN**  
stock. Red, Pink, Shell Radiance, Talisman, Pres. Hoover,  
Sunburst, Victoria, Columbia, Luxembourg, Caledonia,  
Briarcliff, American Beauty, Golden Dawn, Autumn, Lady  
Hullington. Your choice, only 15c each postpaid. **PEACH  
TREES, Elberta, Mamie Ross, Hale, Chinese Cling, Early  
Elberta, Golden Jubilee, Strong, 4-ft. trees, 17c each  
postpaid. Satisfaction guaranteed or money back. We ship  
C.O.D. Bargain catalog FREE! NAUGHTON FARMS,  
Inc., Waxahachie, Texas.**

### ORCHARD SUPPLIES

**WHISKEY BARRELS—\$1.50 EACH. 5—\$7.00. 10—**  
\$13.50. 20—\$26.00. CASH WITH ORDER, ask for earlot  
prices. **SHO-OFF ORCHARDS PRODUCTS CO., Peoria,  
Illinois.**

### PATENTS

**CASH FOR INVENTIONS, PATENTED OR UNPAT-**  
ented. Particulars free. Write **MR. BALL, P-9441 Pleas-  
ant, Chicago, Illinois.**

**NATIONAL TRADE MARK COMPANY, MUNSEY**  
Building, Washington, D.C. Trade Mark Specialists.

### SITUATION WANTED

**PRODUCTION HORTICULTURIST, LANDSCAPE GAR-**  
dener. Thoroughly experienced both practical and sci-  
entific. A-1 reference. Satisfaction guaranteed. **J. F. COOK,  
347 Washington, Fayetteville, Arkansas.**

### WALNUT CRACKERS

**LATEST WALNUT CRACKERS, DIRECT FROM MAN-**  
ufacturer. **BENN THOMPSON, Harrisonburg, Virginia.**

### WANTED

**SONGWRITERS: POEMS WANTED. SEND POEM FOR**  
consideration. **FIVE STAR MUSIC MASTERS, 716  
Beacon Building, Boston, Mass.**

## MODIFYING BIENNIAL BEARING HABIT

(Continued from page 10)

the possibility of completely remov-  
ing the crop by such repeat sprays,  
a practice which, under some condi-  
tions, might be desirable from the  
standpoint of codling moth control.  
The repeat sprays on these very large  
trees did not completely prevent fruit  
set, apparently because of the diffi-  
culty of hitting all the blossoms in  
such large trees, even with two appli-  
cations.

On these trees the DNO at dor-  
mant and half-dormant strength ap-  
peared somewhat more effective than  
the tar oil distillate in preventing  
fruit set. The half dormant strength  
was fully as effective as full dormant  
and, apparently, was strong enough  
to prevent the setting of any blos-  
soms that were well hit.

It is interesting to note that eight  
of the 10 sprayed trees apparently  
had ample fruit buds for a crop in  
1941. Aside from the trees given a  
double application, these trees aver-  
aged about 10 bushels of fruit per  
tree in 1940, or about one fourth of  
the maximum crop they produced in  
the "on" year of 1938.

Additional tests of these same ma-  
terials on younger York Imperial,  
Stayman Winesap and Gano trees  
about 18 years of age, and which  
consequently could be thoroughly hit  
with the spray materials, were made.  
In these tests on York Imperial .8  
per cent TOD and one half dormant  
strength DNO decreased the set to  
about one third that of the check trees.  
The 1.6 per cent TOD and full dor-  
mant strength DNO reduced the set  
still more drastically while the tar oil  
distillate repeat spray resulted in al-  
most complete removal of the crop.  
However, a few scattered apples re-  
mained on the trees.

With Stayman Winesap even .4  
per cent TOD reduced the set to only  
about one third of that on the checks.  
TOD .8 per cent was not appreciably  
more effective than .4 per cent. The  
.8 per cent repeat, however, removed  
practically all of the fruit. With  
Gano, on which many of the fruit  
buds are on relatively long shoots,  
the proportion of reduction was  
similar.

Younger trees of all three of these  
varieties were not fully biennial but  
had a heavy bloom in 1940. The re-  
sults are indicative of the amount  
of reduction in set that might be  
expected from these lower concentra-  
tions of materials when applied to  
trees that can be covered thoroughly  
with sprays directed more or less  
horizontally into the tops rather than  
upward from below.

The results of the 1940 spraying  
substantiated those obtained earlier  
in indicating that tar oil distillate at  
.8 per cent concentration, thoroughly

applied, is sufficiently strong to pre-  
vent the set of a large proportion of  
the fruit buds of all the varieties  
investigated. DNO at one half dor-  
mant strength appeared on the whole  
to be slightly more effective than  
TOD at .8 per cent in preventing  
fruit set. On the basis of two years'  
results, it would seem unnecessary  
to use materials stronger than these  
if the objective is to reduce fruit set  
rather than to completely eliminate a  
crop.

Examination of the fruit-bud for-  
mation for 1941 on the old York  
Imperial trees indicated that, where  
not more than one fruit was set for  
10 blossom clusters, ample fruit-bud  
formation for a crop for 1941 had  
been secured. This amount of reduc-  
tion occurred in practically all cases  
where these materials were used.  
Objective in the spraying was to hit  
all buds. Fruit which set following  
the spray treatment was apparently  
from buds not sufficiently developed  
at the time of spraying to be thor-  
oughly hit, or which were protected  
by branches or by their position on  
the tree, so that the spray material  
did not hit the actual buds. Even  
with a thorough job of spraying, it  
has not been possible under Potomac  
Valley conditions to remove com-  
pletely the crop with one spray appli-  
cation.

Results of the commercial use of  
TOD sprays in the Wenatchee,  
Washington area last year were  
extremely satisfactory from the  
standpoint of practically complete re-  
moval of the crop which was the  
objective of the spraying. A single  
application of 2.0 per cent TOD was  
used and almost no apples set on the  
trees.

During the past eight years in the  
United States, the even-numbered  
years have been relatively short apple  
crop years with much better prices  
prevailing than during the odd-  
numbered years. Many orchards,  
however, have been producing their  
main crop during the odd-numbered  
years with disastrous financial results  
to the grower. Treatments outlined  
indicate a method by which the "on"  
year for parts of such biennial  
orchards can be changed and by  
which orchard production as a whole  
can be made more uniform from  
year to year without the complete  
loss of a crop. It would appear to  
merit the serious consideration of  
any grower who has certain varieties  
in a strongly biennial condition. The  
grower might accomplish more uni-  
form production through thoroughly  
spraying approximately half of each  
tree of biennial varieties, or by  
spraying all of the trees in a part  
of biennial blocks.



# NEW

- ECLIPSE MACHINE
- SPEED-MO
- NEW DUMPING HARNESS
- BOOKLETS

## ECLIPSE MACHINE •

**F**ruit growers who prefer to use Freon-12 instead of ammonia in machines air-conditioning their cold storages will be especially pleased by the operation of an Eclipse refrigerating machine which was designed



for air conditioning, all kinds of food service, process, research work, and other uses.

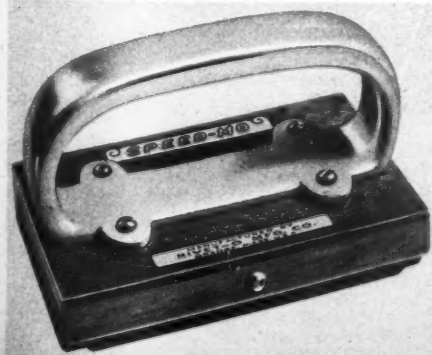
These machines have three, four, or six cylinders and, as they operate at speeds up to 900 r.p.m., they give large capacities in minimum space. Though equipped for handling Freon-12, as a standard, they are amply sturdy for pumping ammonia at much higher pressures when they are equipped with water-jacketed cylinders.

Multi-cylinder machines of this same type are very popular for portable refrigeration service. These portable units are used for pre-cooling fruit when placed in cars as well as for cold storage at temporary location where short-carry is practiced. Similar machines, handling ammonia instead of Freon-12, also are used in low temperature quick-freezing units.

Eclipse machines are manufactured by Frick Company.

## SPEED-MO •

Growers and packers find the Special Fruit Growers' Logotype "Speed-Mo" rub-

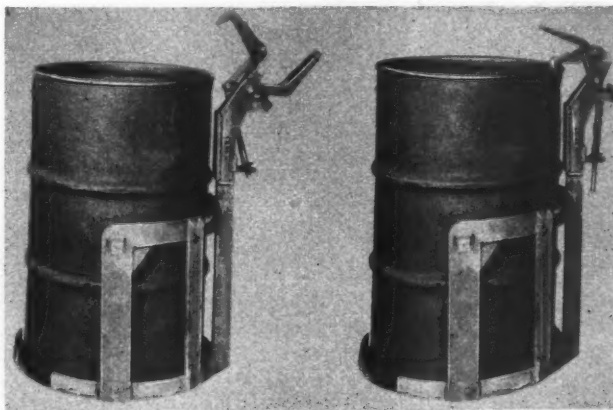


ber stamp a satisfactory medium for marking boxes, baskets, barrels, etc. in a single operation. The stamp is complete in one unit, having interchangeable logotypes for the size, the grade and the brand. This makes a marking operation that is 200 per cent speedier than the usual operation. The stamp can be purchased with your name and address and extra logotypes for your size, grade and brand. It is manufactured by Rivet-O Manufacturing Company.

## NEW DUMPING HARNESS •

A new quick-locking harness, devised to speed up and make more efficient the handling and dumping of barrels and drums, can be of great help to the fruit grower who has considerable operations of this kind to make. No adjusting or affixing of the harness to the drum, or barrel, is necessary, as a standard type barrel hoop truck makes it possible to deposit the drum directly into the harness. Thus, the drum does not have to be placed on the floor first and one complete operation is eliminated. The

harness is equipped with a spring toggle, is arc-welded throughout, and can be made for any size drum. For fruit growers who handle large quantities of insecticides, this is a helpful innovation. Lewis-Shepard Corporation are the manufacturers.



## BOOKLETS •

Stark Brothers' Nurseries and Orchards Company has two interesting booklets on profitable orcharding. One is written with particular interest for the person who is growing fruit commercially; the other, for the person who is growing fruit for his home consumption.

Meaning of the word rubber has changed since the advent of synthetic materials similar to the natural product. A short comprehensive story of the entire field of natural and synthetic rubbers by its director of research, J. W. Schade, has been printed by The B. F. Goodrich Company.

For copies of these booklets, write to  
AMERICAN FRUIT GROWER, 1370 Ontario  
St., Cleveland, Ohio.

## CALENDAR OF COMING MEETINGS and EXHIBITS

- Nov. 12-13—Minnesota Fruit Growers Association and Minnesota State Horticultural Society meeting, Radisson Hotel, Minneapolis. Exhibits at Northwestern National Bank.—J. D. Winter, Sec'y, Fruit Growers Assn., Mound.
- Nov. 13-14—Annual Convention of the Wisconsin State Horticultural Society, West Bend.—H. J. Rahmlow, Sec'y, Madison.
- Nov. 13-14—Iowa State Horticultural Society, Iowa Fruit Growers Association, and Iowa Nut Growers Association, Ames.—R. S. Herrick, Sec'y, State House, Des Moines.
- Nov. 18-19—Tennessee State Horticultural Society Convention, Jackson.—G. M. Bentley, Sec'y, Knoxville.
- Dec. 1-3—Washington State Horticultural Society 37th annual meeting, Wenatchee.—John C. Snyder, Extension Horticulturist, Pullman.
- Dec. 2-4—New Jersey State Horticultural Society annual meeting, Haddon Hall, Atlantic City.—Arthur J. Farley, Sec'y, New Brunswick.
- Dec. 2-4—Joint meeting of the Michigan State Horticultural Society and the American Pomological Society in connection with the Michigan Apple Show, Civic Auditorium, Grand Rapids.—H. D. Hootman, Sec'y, Lansing.
- Dec. 4-5—Kansas State Horticultural Society annual meeting, Lawrence.—Geo. W. Kinkead, Sec'y, Topeka.
- Dec. 5-6—Montana Horticultural Society annual meeting, Hamilton.—Geo. L. Knight, Sec'y, Missoula.
- Dec. 9-11—Virginia State Horticultural Society 46th annual meeting, Roanoke.—W. S. Campfield, Sec'y, Staunton.
- Dec. 10-12—Peninsula Horticultural Society, annual meeting, Cambridge, Maryland.—T. F. Manns, Sec'y, Newark, Del.
- Dec. 11-12—Oregon State Horticultural Society annual meeting, Eugene.—O. T. McWhorter, Sec'y, Corvallis.
- Dec. 11-12—Connecticut Pomological Society annual meeting, Hartford.—H. A. Rollins, Extension Fruit Specialist, Storrs.
- Dec. 17-19—Illinois State Horticultural Society annual meeting, Urbana.—Joe B. Hale, Sec'y, Kell.
- Dec. 29-31—American Society of Horticultural Science, Dallas, Texas.—H. B. Tukey, Sec'y, Geneva, New York.
- Jan. 7-9—Massachusetts Fruit Growers Association annual meeting, Worcester.—William R. Cole, Sec'y, Amherst.
- Jan. 13-15—Indiana State Horticultural Society annual meeting, Purdue University, Lafayette.—Monroe McCown, Acting Sec'y, Lafayette.
- Jan. 13-16—New York State Horticultural Society annual meeting, Rochester.—Roy P. McPherson, Sec'y, Le Roy.
- Jan. 13—Vermont State Horticultural Society annual meeting, Memorial Auditorium, Burlington.—Charles H. Blasberg, Sec'y, Burlington.
- Jan. 20-22—Maine Pomological Society annual meeting, Lewiston.—E. L. White, Bowdoinham.
- Jan. 20-22—Pennsylvania State Horticultural Association annual meeting, Harrisburg, in connection with the Pennsylvania Farm Show.—John U. Ruef, Sec'y, State College.
- Jan. 26-28—Annual winter meeting of the Ohio State Horticultural Society in connection with the Annual Farmers' Week of Ohio State University, Columbus.—Frank H. Beach, Sec'y, Columbus.
- Jan. 28-30—New York State Horticultural Society Eastern meeting, Kingston.—Roy P. McPherson, Sec'y, Le Roy.
- Feb. 11-12—West Virginia Horticultural Society 49th Annual Convention, Martinsburg.—C. Miller, Sec'y, Martinsburg.

## FIRST STEPS IN FRUIT GROWING

### WHEN TO PICK APPLES

**H**ARVEST season is a time of satisfaction to all fruit growers. However, one problem arises at this time of year which seriously bothers the inexperienced grower. The question of when to pick apples is a perplexing one. Most growers who are harvesting their first crops pick too early so that apples are immature, taste badly and may develop scald and bitter pit in storage. On the other hand, if apples are picked too late, they deteriorate rapidly, are not of the best quality, and may develop soft scald in storage. Firmness of the flesh of the apple, amount of yellowing or change in ground color in the unblushed parts, and the ease with which the fruit separates from the spurs, are three of the best indications of when to harvest. The best of these is the change of ground color from a green color to a greenish-yellow color. Different varieties show different shades of ground color when ripe. When getting ready to pick, remember that, when there is a light crop, apples tend to mature a few days earlier than usual and when, there is a heavy crop, they may mature a few days later than expected.

U. S. D. A. Bulletin No. 1406, "The Ripening, Storage, and Handling of Apples", contains a color chart which shows different shades of ground color. It can be obtained from the Superintendent of Documents at Washington, D. C., for 20 cents.

### Rabbit Protection

**N**OW is the time to think about protecting young fruit trees from injury caused by winter-starved rabbits. Michigan State College has developed a repellent which will keep rabbits from gnawing the bark. It is made of seven pounds of rosin to a gallon of alcohol. The rosin is pulverized and the mixture is permitted to stand 24 hours in a warm room. No heat should be applied. One gallon of repellent is enough for 150 to 200 two-year old trees and one application will give protection for a winter.

Surveys indicate that rabbits reach as high as two feet above the height of drifted snow so protection of the bark should be extended to a point two feet higher than the snow is likely to drift. The mixture should be applied when the tree is dry.

### Required Reading

**N**EW bulletins every fruit grower should have are: "Peach Culture in Michigan," by Stanley Johnston, Michigan State College, East Lansing; "Controlled-Atmosphere Storage of Apples," by R. M. Smock and A. Van Doren, Cornell University, Ithaca, N.Y.; "Pruning Hardy Fruit Plants," Farmers' Bulletin 1870, U.S.D.A.; "Spraying to Control Preharvest Drop of Apples," by L. Southwick and J. K. Shaw, Massachusetts State College, Amherst; and "Miscellaneous Tropical and Sub-Tropical Florida Fruits," by H. Mowry, and L. R. Toy, University of Florida, Gainesville.

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### HOW TO SET PICKING LADDERS

#### WRONG



This ladder is liable to fall because it is not securely held in the tree and may slide off the supporting branches.

#### RIGHT



This ladder is placed in the right way against the tree with full weight resting on ground instead of on a branch.



The picker on this ladder may have a serious fall if he doesn't regain his balance. He set his ladder atilt.



This ladder is set correctly with both legs on the ground. The person in the picture at left didn't bother to do this.



Close-up view of how not to place a long picking ladder. Note one leg off the ground. It will topple over easily.

AMERICAN FRUIT GROWER



This is the way the picking ladder should be placed: both legs touching the ground, weight distributed evenly.

OCTOBER, 1941





A corner in the new du Pont Laboratories for the study of insecticides and fungicides.

## DU PONT COMPLETES NEW PEST CONTROL LABORATORY

THE du Pont talent in chemical research which has produced so many notable achievements, including nylon, lucite and cel-o-glass, is now to be directed to pest control research in a recently completed three-story building. The new laboratories therein are equipped with the most modern scientific instruments for the study of insecticides and fungicides, including a new carbon arc lamp which approaches natural sunlight. The laboratories will co-ordinate experiments and practical field work.

Under "pests" are grouped destructive insects, fungi, bacteria, weeds, protozoa, rodents, worms; destructive marine forms such as teredos, barnacles, squids and algae, and other harmful forms of animal and vegetable life.

Special chambers and incubators for rearing various insects and for growing "fungi" under precise scientific controls are available. Automatic temperature and humidity control are provided for rearing codling moth larvae; while the destructive habit of the Japanese beetle of gorging itself on foliage during bright hot days when the humidity is high, is to be studied under artificially produced weather conditions.

The new du Pont pest control laboratory is in charge of Dr. Wendell H. Tisdale. All laboratory conclusions, says Dr. Tisdale, are confirmed by field tests which are an important essential in our program.

## BOOST SALES DURING NATIONAL APPLE WEEK

NATIONAL Apple Week this year will begin the night of October 24 and end Halloween night, October 31. New York and New England Apple Institute, Appalachian Apple Service, Michigan State Apple Commission, and Washington State Apple Commission are making plans for special sales drives during the week.

The week, which was founded by James Handy of Quincy, Illinois in 1905, is sponsored by the International Apple Association.

OCTOBER, 1941

# A POWER HOUSE ON WHEELS

**NOW...**

**115** IN DODGE  
HORSEPOWER 1 1/2-TON  
TRUCKS

**120** IN  
HORSEPOWER 1 1/2-TON  
SPECIAL

**DODGE *Job-Rated* TRUCKS**

*More Power! More Stamina! More Pull!*



## Quality Built... They'll Do More, Pull More, Last Longer On Your Farm!

You need power to haul farm loads quickly, dependably, and at lowest cost. You get power to spare when you get one of the great new super-powered 1 1/2-ton *Job-Rated* trucks! You get maximum dependability and long-life, too—because every part of these great trucks—transmission, clutch, gears, springs and brakes—is "sized" just right for the job it's built to do. You can't make a better investment in farm transportation today than the right quality-built, long-lasting Dodge *Job-Rated* truck that fits your farm job! Why not talk it over with your Dodge dealer... today?

PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

DODGE DIVISION, CHRYSLER CORPORATION, DETROIT, MICHIGAN

**STILL PRICED WITH THE LOWEST FOR EVERY CAPACITY**

AMERICAN FRUIT GROWER

PAGE 23

# PLANT PENNIES - PICK DOLLARS -

*For Profit Today and Security Tomorrow*

## Plant a Home-yard Orchard of STARK'S New Young-and-Heavy-Bearing Prize Fruits!

● Fruit-growers can rejoice—for More Prosperous days are here  
A tremendous increase in the consumption of fruits is already under way—this increase should double the demand for fruit.

U. S. Government officials, including Sec. of Agriculture Wickard, state that the lack of high-vitamin-content foods—natural "protective" foods such as fruit, etc.—has lowered American health-standards—they declare that NOW in the great national emergency, the health and strength of American citizens MUST be increased. They are urging the growing of more fruit—they want EVERYONE to eat more fresh fruit for greater health, stronger muscles, sounder bones and clearer minds.

### 50% FEWER APPLE TREES THAN 1930

Census figures for 1940 show there are approximately only half as many bearing apple trees as in 1930—and more startling still, that there are only about one-third as many young non-bearing apple trees in 1940 as there were in 1930. Already apple prices are higher than last year—and with the great U. S. Government forces at work to increase the consumption of apples and other fruit, it is predicted that fruit-prices will continue to increase. Now, as never before, fruit-growers have a GOLDEN OPPORTUNITY—join in this great National Movement for the welfare of your Country—improve the Health of America—and reap RICH PROFITS for yourself. NOW is the time to plant fruit trees—increase your fruit-tree acreage—replace old unprofitable trees. NOW is the time to "plant pennies" and "pick dollars" for many long years of bigger, better markets for fruit—better prices—and bigger PROFITS.

### CUT YOUR LIVING COSTS WITH A HOME ORCHARD

Protect yourself against rising living costs and give your family better health. Even YOU, as a Commercial Fruit Grower, will find it highly profitable to plant a Home Orchard for your family use. Stark Young-Bearing and Heavy-Bearing Fruit Trees will supply all kinds of fresh, tree-ripened fruit from early summer till the snow flies. It will pay you RICH RETURNS in happier, better living. For a very low cost you can have a bountiful supply of New STARK Prize Fruits. Your family will have plenty of vitamin-full fresh Tree-Ripe Fruits throughout the year—an abundance to put up for winter meals, jams, jellies, preserves, etc. Your PROFIT and Pleasure will grow year after year as your STARK Trees BEAR INCREASINGLY HEAVY CROPS OF LUSCIOUS, HEALTH-GIVING FRUITS.

### FREE—HOME ORCHARD PROFIT GUIDE with PLANTING PLANS

Get the benefit of 125 years of Stark fruit-growing experience. Let STARK BRO'S help you—get our New FREE Home-Orchard Profit Guide with Planting Plans—complete instructions, simple diagrams that make it simple and EASY for YOU to grow your own delicious Tree-Ripened, health-giving fruits—contains helpful hints on Profitable Marketing, also. Be sure to check Coupon to receive FREE helpful Home-Orchard Profit Guide.

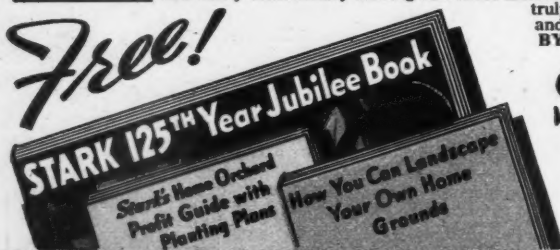
### FREE! Big New Color Book of Trees—Shrubs—Roses

Just Off Press—72 Pages—300 Pictures  
Send for this Great FREE Color Book—the largest, most beautiful and helpful we have ever issued. It's a gold mine of valuable fruit-growing and landscaping information and help—read how men in all parts of the country are making AMAZING PROFITS with Stark Bro's, New, EXCLUSIVE U. S. Patent Fruit Trees. There are quick profits for YOU, too, in the New STARK Prize Fruits—for Stark Trees bear young—many bear the 2nd and 3rd year after planting—and these New STARK Prize Fruits command TOP-MARKET PRICES.

### EXCLUSIVE NEW STARK U. S. PATENT FRUITS

Among the scores of varieties with astounding records of young-bearing—bumper crops—and Big Profits, see the new world-famous STARKING Double-Red Delicious Apple (biggest-profit red apple of all)—Stark's GOLDEN DELICIOUS, the most remarkable yellow apple discovery of all time, the new perfect All-purpose apple with a distinctive flavor that makes it the favorite of millions—the huge new HAL-BERTA GIANT Peach—Burbank's new JULY ELBERTA Peach, sensational, early, hardy yellow free-stone—Burbank's new ELEPHANT HEART Plum. These and many other money-making new fruit marvels pictured in Actual Colors and truly described in this Big FREE Fruit and Shrub Book are SOLD ONLY BY STARK BRO'S.

**LUTHER BURBANK**  
STARK BRO'S, successors to Luther Burbank, are carrying forward his great scientific work. They have exclusive Propagation, Control and Sale of New Burbank Creations.



**STARK NURSERIES**  
OVER 125 YEARS OLD  
Largest in the World—Oldest in America  
8 Branch Nurseries Coast to Coast  
Box B-11 Town of Louisiana, MO.

### FREE "HOW YOU CAN LANDSCAPE YOUR OWN HOME GROUNDS"

Make your home-grounds a Bower of Beauty—you can do it EASILY. This FREE Book—fully illustrated—guides you—shows CORRECT ARRANGEMENT—gives information on selection of TREES, SHRUBS and ROSES—proper planting and care. The Coupon will also bring you showings of the latest, world's finest beauties of horticulture, NEW and U. S. Patent Burbank rose varieties, flowering shrubs, etc.

STARK Nurseries, Inc., CLIP AND MAIL THIS  
Box B-11 Louisiana, MO.

Send me FREE, BIG NEW JUBILEE FRUIT BOOK, and details of FREE TREES OFFER.

**COUPON**  
TODAY

☐ CHECK HERE for FREE HOME ORCHARD PROFIT GUIDE with PLANTING PLANS.

☐ CHECK HERE for FREE Book "HOW YOU CAN LANDSCAPE YOUR OWN HOME GROUNDS."

I may plant \_\_\_\_\_ Trees \_\_\_\_\_ (Number) \_\_\_\_\_ (Kind)

Name \_\_\_\_\_

P.O. \_\_\_\_\_ County \_\_\_\_\_

St. or R. F. D. \_\_\_\_\_ State \_\_\_\_\_

☐ CHECK HERE for our LIBERAL WEEKLY CASH INCOME PLAN for SELLING STARK PRIZE TREES—SHRUBS—ROSES

### \$172.31 in 1 Mo. Selling Stark Trees

For over 4 years—month in and month out—M. B. Clegg, retired minister of North Carolina, has made a STEADY CASH INCOME taking orders for Stark Prize Fruit Trees, Shrubs and Roses. He made good money right from the start—and in one recent month alone he made \$172.31 GROSS CASH PROFIT. Stark needs more men like M. B. Clegg—splendid openings exist in all parts of the country—the Opportunity for FINE INCOMES is greater now than ever before in this Pleasant, Healthful PROFITABLE occupation. Big Sales Demand Increasing Rapidly. Be your own boss—work Spare time or full time. No experience necessary to start—no investment—and CASH PAID WEEKLY. Stark-Burbank Trees, Shrubs and Roses are famous from Coast to Coast—EASY to sell. We offer YOU the opportunity to make a good living and have a lifetime business in this pleasant, dignified occupation, from the first day you receive our FREE Selling Outfit. Write today!



M. B. CLEGG

Clip Coupon **Fine Selling Outfit—FREE!**